



## Social classification of the audiovisual information in the televisive repositories : automatizing the internal classification and bring the contents closer to the audience

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Recibido: 1 de septiembre de 2018 / Aceptado: 10 de enero de 2018

**Resumen:** Se presenta el modelo de integración de la clasificación social en los repositorios audiovisuales de las televisiones con el fin de que dicha clasificación sirva para la identificación y recuperación de contenidos entre usuarios externos y los periodistas de la propia organización. Para ello se ha revisado la literatura científica e interpretado las carencias y problemas en la recuperación que tienen tanto periodistas como ciberespectadores en diferentes cadenas de televisión. A la vista de la recuperación de información por medio de Intranet corporativas, se estima que la clasificación social de los usuarios externos mejora la recuperación de información de los periodistas, por lo que también existe una automatización en los procesos de clasificación realizado hasta ahora por documentalistas. La originalidad del trabajo radica en integrar la clasificación y elaboración de folksonomías realizadas por los usuarios externos a las estrategias de recuperación de información por los periodistas de la cadena.

**Palabras clave:** Clasificación social / Tagging / Etiquetado Social / Folksonomías / Medios audiovisuales de comunicación / Información audiovisual / Repositorios audiovisuales

[es] Clasificación social de información audiovisual de los repositorios televisivos: automatizando la clasificación interna y acercamiento de los contenidos a los cybertelespectadores

**Abstract:** Purpose: A integration model of social classification in the audiovisual repositories is presented with the aim of being used to identify and retrieve contents between external users and journalists of the organization itself. Design: All the scientific literature has been reviewed interpreting the scarcities and problems found by journalists and cyberspectators in the retrieval process of the diferent television networks. Findings: In view of the information retrieval done by the corporative intranets, social classification of the external users is estimated that improves the information retrieval for journalists, hence there is an automatization in the classification process done by the documentalists up to here. Originality: the originality of this paper relies on the integration of the classification and the production of folksonomies done by the external users different to the retrieval information strategies made by the journalists of the television networks.

**Keywords:** Social classification/Tagging / Social Tagging / Folksonomies / Audiovisual Communication Media / Audiovisual information / Audiovisual repositories.

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**Cómo citar:** Caldera-Serrano, Jorge (2019). Social classification of the audiovisual information in the televisive repositories: automatizing the internal classification and ring the contents closer to the audience. *Cuadernos de Documentación Multimedia*, 30, 144-154.

## 1. Introduction: the social classification

The appearance of the Social Bookmarking has made popular a new method for the organization and the description of contents. This new way is known as “social tagging” by means of which using terms of the natural language we can classify the contents of a collection through folksonomies (Quintarelli, 2005).

Hassan (2006) identifies las two tagging dimmension: one that is personal which contributes with descriptors to the content with the purpose of retrieve them later on, and a second collective dimension which contributes with the same description to the collective in order to share resources or in order to help the group in which it is registered. Hence, the tagging implementation is shared by part of a collective with the aim of retrieving contents listening to common parameters given as valid for the collective users. From this collective dimension is where we find the great value of the folksonomies, due to any user can locate and retrieve the information from the description of contents implemented by its pairs (Gómez-Díaz, 2012).

The social bookmarks (tags) are applications that allow the organization of video links, podcast links, blog links, etc., and from these applications they are accesibles both for us and for other users (Gazan, 2008), and those also have been used to tag images ( Bar-Ilan, 2010) (Angus, 2008), bearing in mind paradigmatical examples existing nowadays: Flickr, Panoramio, Youtube and Pinterest. There is an important number of free applications for doing this task, we can highlight del.icio.us, Mister Wong, Wordle, Tagxedo, Blinklist and Diigo. These applications used to have with the same possibilities, such as the classification of links by means of the inclusion of one or more tags, the creation of users' groups and networks to share those taggins, the use of the RSS for the distribution of contents, store and access to links for other users and the posibility of editing online, classifying links and tags in public and private (Ros-Martín, 2008).

According to Mathes (2004) the indexing or the social classification this would be another model for indexing contents, in which those users or customers describe contents associating those with descriptive metadata of themselves. Definetely, the inclusion of terms is done by means of the users' aggregation, being an important number of users whose integrate such description, gathering an indexation called “intersubjective” that is more reliable than the one made by the author. And due to it's collective, it's more relevant than the one made by professionals of the documentation field. There are authors whose rather prefer mixed models between the automated classification and the social classification in order to obtain better results (Brian, M., J. Catherine, et al., 2010).

Even so, there is a terminological problem to identify the pointed action, either folksonomies, tagging, social tagging... among other options. So it has to be clear that is a form of description in natural language indicated by the user who access to the information. It has nothing to do with the controlled languages used by documentalists traditionally, specially for users of the network. According to Ros-Martín (2008) “hence, we are facing a new way of badly structured classification”.

It's important to identify the possible tags that can be included attending to its production:

- Tags of content. Identify the content tagged in a way more or less specific: name of persons, denotated objects, etc.
- Tags of context. provide information in the very moment of the creation and/or the location.
- Subjective tags: personal contribution of the user's criteria facing the content.
- Attribute tags and/or organization: provide information but nothing from the content but from the elements given by the users with their personal character.

From a collective view and the folksonomies production (Al-Khalifa & Davis, 2006) by part of the users' view in which this paper is tackled, because of the social indexation as a tool to retrieve information is very useful and not only for users, it's also useful for organizations that put that information at user's disposal, and hence they can take ownership of the tools used by the users.

Audiovisual Communication Medias are an example of organizations, there are more cases everyday, that put at user's disposal the information with a double purpose: to foster loyalty of the audience is intended, and contribute with added value to share resources and comments by means of the social web tools, helping users to know and recognize the requirements of the audience. This in not only a request, it's a way to know and guess curiosities, likes, thus, audiences and the potential of these new and original audiovisual products.

Due to TV Networks put their information at the cyberspectator's disposal, normally by means of repositories or classification contents, we could use that labour done yet by external and internal users of these audiovisual repositories in orde to obtain an useful folksonomy for journalists and spectators, more accessible than the rigid tools used up to here.

## **2.Object, purpose and methodology**

The departaments of documental management in the televisive companies handle a big number of audiovisual documents diary produced by journalists in their job. Such quantity of information must be put at the journalists' disposal with the major speedity and documental appropriate, so new techniques and formulas are been investigated in order to automatize this hard task, with a high cost on human resources needed for the management (Caldera; Zapico, 2006).

Hence, the purpose of this paper it's focused on the audiovisual collections and /or repositories that television networks locate in the net, in a way that they make

this in-house production information accessible for the spectators of the TV Network. Another nuclear element of this paper is the use and the access to the information by internal users, journalists, external users and cyberspectators, with the aim of knowing and identifying retrieval and classification methods of some of them, unifying the labour and the interests.

Come from the potential of the previous elements anteriores, the aim of this paper is to show the requirements and the ways to search information by internal and external users are quite similar, so that the social classification done by the external users will help and will improve the information retrieval for journalists, automatizing the content analysis process by the documentalists of the audiovisual company.

The working methodology has counted with a wide range of traditional stages in the research labour of our subject: a first stage with the review of scientific literature, specially in the section of folksonomies and social classification. Experiences and papers related with the classification of images have been analysed, with the purpose of detecting the potential of the tool. This information is specially expressed in the first paragraph of this paper's introduction. Due to the cumulative character of Science, and assuming that this paper is an evolution and innovation of previous researches, we didn't get into depth analysis of this issue because it is well-known by the professionals.

Lately, and attending to the professional experience in Information Systems of television networks and through several visits to prestige centres, the use of information and the retrieval process have been analysed, as well as the existence of repositories and *à la carte television* formats for external access to the organization, resolving if such reality implies a real access by external users and the possibility that they could tag information through taggins.

Finally, a method by which external users can assign tags uploaded in the net it is planned, in a way that those tags could be useful for the information retrieval both for external users and in the integration with the Digital Asset Management of the television networks in order to be retrieved by journalists.

### **3. Audiovisual information on television: users, access and broadcasting**

The change of the paradigm on the television media has also changed methods and ways of working in the documentation departments (Nuño-Moral, 2002). The digital model has become a reality: all inputs, management and broadcasting of contents it's integrated within an unique framework of an unique system. The Media Asset Management (MAM) has evolved towards the Digital Asset Management (DAM) so that with a corporative intranet of access to the DAM system and from a terminal we can access to quickly to all the contents of the company.

This can be translated in many questions related to the production, access and contents distribution among the members of the system, ahora bien, there are significative and relevant changes related to the paper we introduce here: the documentalist is not longer the nexus between the information and the journalist.

Although those journalists can keep asking the documentalists to do this task, the new reality is that they will be able to access directly to the entire collections, interrogate databases and select the useful information for them.

This reality must not mean something traumatic for the information manager, nothing but a logical evolution of the DAM where the digital information, by its nature and definition, strengthen the ease of access and hence, the ease for its use.

The documentalists are not yet the bridge between the collection and the user, but the DAM is the nexus. The reality shows that in few occasions the journalists will visit the documentation section to solve any doubt, and themselves will look for and retrieve the contents attending to their knowledge, language and cultural references. Independently the retrieval problems this action can result in considering that journalists are not experts in searching. So, there is a clear reflection: DAM must be adapted in order to allow journalists to retrieve contents with accuracy.

Such adaptation will have to do with the improvement and the software regulation to the journalist's requirements, but also an improvement of the classification of contents and an adaptation of query terms (Caldera-Serrano, 2003). The documental system must have the ability to adapt constantly to the journalist's requirements, not to force those to adapt to the documental criteria, that is total mistake and a failure.

Moreover, this adaptation must be constant como from the journalists' requirements change in the long term. The "informative fashion" force the description of the audiovisual information changes constantly, come from the elements previously non require for the retrieval (Caldera-Serrano, 2006).

However, we have to have a look to the identification of the moving image elements (Caldera & Arranz, 2012) the journalist requires information above all in free text about the description of the image, omitting the query by a controlled language and even with the use of boolean operators. This reality is a reflection of the network queries, where Google is the biggest search engine. In these queries boolean operators are not used neither, even though interrogating with an advance search. Hence, if such trend exists, don't seem convenient to recreate controlled languages, created by documentalists with immovable structures, so tha the end user use free text centered in specific terms of its speciality. And journalists are a clear example of use of an own terminology as well as they don know controlled languages and they'd rather prefer to query with free text.

The digital television has changed its habits, and the audience have changed also. The user not only wants to watch TV in a synchronous way, breaking barriers of time and space in order to visualize the desired products, whenever he wishes and in the peripheral he wants. The user is not a slave of the television system and the broadcasting schedules. The television networks with a certain delay, have observed that the ways used to broadcast their informative and entertainment contents must change. For that reason, communication tools have been implemented by means of an interconnection between the user and the televisión (communication through the social networks) and the broadcasting of contents in an asynchronous way through repositories of televisive contents and the television

à la carte. By means of these tools the user can access to the contents whenever he wants to and he can visualize them in a synchronous or asynchronous way, so that he can communicate in the same way as other spectators who watch the same product.

These users are more specialized now and they count with a good level of technological learning. The intercommunication and the constant learning of the audiovisual language makes it similar to the query language used by the journalists. With that, we have to state there is a mutual learning between journalists and cyberspectators, so that they learn from the other an viceversa. Thus, these are common platforms. In a direction changes are detected in the requirements of digital natives in which it's referred to likes and trends, and hence, to audiences and addressing marketing of the TV network, and on the other hand the user consumes and nourishes information filtered by the TV network.

The case study of requirements and preferences of the user has been done with sociological studies made by Community Managers, whose use old techniques such as a contractual analysis to store, know and study the communications between users and the audiovisual products of the TV networks.

In short, users and journalists nourish with information to each others, and they generate a collective opinion, sometimes aimed at televisive journalists, but in other moments users create trends or they can modify it.

In a common environment, in a digital space where both parts are connected and they feedback, for that reason it's feasible to interconnect the realities of the journalist and the cyberspectator through an unique folksonomy.

#### **4.Proposal for a common folksonomy: the User tagging the Journalist.**

Folksonomies ease internet users to describe freely without the rigid structures of the taxonomies. Hence it is obtained tagging attending to preferences and interests, analysing the information from a personal view. The classification system is open and useful for those to tag, and it's potentially valid for the same collective that shares curiosities and ways of communication.

Moreover, the cost de implementation of a taxonomy is without question more expensive that the social classification, besides they force the user to learn a system too difficult to assimilate.

Besides, attending to a concept yet indetified previously, "informative trends", folksonomies count with the ability to adapt quickly to changes, contributing with new tags for new contents. Obviously, the social classification counts with all the problems derived from the controlled language. Nevertheless, the trend is to contribute with information in a natural language and it's through these elements by which it is retrieved.

Once the reality is bearing in mind that commiunication media give audiovisual information through corporative audiovisual repositories and these are used in an efficient way by the cyberspectators, the possibility of a external folksonomy can serve to retrieve information by the journalists it's simple methodological.

From the TV network the idea of adding bookmarks with tags in natural

language (folksonomies) instead of the folder system has to be feeded, reaching to a cluster of tags or bookmarks in order to interrelate them. We have to understand that the number of users accessing to audiovisual contents in the audiovisual repositories is too high, so that an important and relevant number of tags for the same content would be useful, because of they could validate and weigh the validity of these tags, although all could be useful for the retrieval of documents.

The necessary implementation stages to generate a valid folksonomy for the users' collective and also for journalists would be:

(a) Layout of contents online. Obviously, and as an unquestionable premise, it's necessary that the information can be accessible to cyberspectators in a platform or a fluent repository and easy to use. Thus, the accessibility together with the ergonomics of the system is a previous step in order to answer this question. However, the main television networks count with an important number of contents accessible online. Although not all these contents can be put at everyone's disposal due to the conflicts generated by the copyright.

(b) Use tools of social tagging and /or the implementation by the company. A second element the implementation of a tool that can be used to tag contents. There are several applications (above mentioned) for this purpose, so the television network must assess and analyze which of these potential options is better for the users and documental types. However, an "ad hoc" programming is far from negligible, due to it is not a complex task.

(c) Encourage the tagging done by the user. In the beginning the aim of this paper is not to know the case study of tagging, hence maybe people won't understand its use and why it's useful for. Though any of them may have any relation with the activity, from the television network they must inform about the process and they also must stimulate it, by means of prizes, visits to the television network, etc. In short, besides the own benefits that a folksonomy means to the cyberspectators, it is intended to encourage them with prizes throughout the implementation stage. Once the habit is acquired it won't be necessary to award the activity, although such prizes are a good way of marketing and approach to the television network.

(d) Analyze and validate the folksonomy among external users whereas it's been developing. The bank of proofs is initially limited, so that it's very difficult to track and validate the quality of tags assigned. During this stage it's interesting to count with the human factor (the documentalist) in order to assess the quality and analyze together with the journalist collective. This task must count with a previous study about a transactional analysis of the query terms and its adaptation to the tags. Thus, the tracking and analysis will have a double way: first of all, the analysis of the requests and elements retrieved (besides the satisfaction level) and tags included by these users.

(e) Folksonomy of journalists. About the same contents, journalists of the

television network or a group chosen expressly for that purpose, will tag same contents than the users. This bank of proofs will help us to determine if the tagged vocabulary and the retrieval process done by the journalists is similar to the one done by the users. Then, another case study of transactional requirements in audiovisual contents will be necessary, as well as the tagging about contents.

(f) Validation of a folksonomy. With the implemented banks of proofs, se podrá analizar los resultados por medio de la puesta en común de etiquetas. Se vuelve a remarcar que al principio el banco de prueba de contenidos no será especialmente importante, por lo tanto será manejable pudiendo analizar resultados tanto por elemento cualitativos, de validez y calidad de las etiquetas tanto por periodistas como por ciberespectadores, como análisis comparativos cuantitativos por coincidencia de términos.

(g) Validation of the system. Once the gathered information from these banks of proofs is analyzed, we can accept or refuse the folksonomy. Our planteamiento a priori, derived from the experience with experts in information management of television networks, es que los results will be very positive, that will allow us to validate the system, even widen them not only to an unique bank of proofs but to the entire audiovisual collection.

(h) Maintenance service of the system and feedback in the process. Taking risks in the outcomes and the extrapolation of these folksonomies' use to the entire audiovisual collection, that will be translated into an important advance in the description of audiovisual contents, done until this moment only by the network's documentalists. This option speeds up the process and releases the information manager in a certain way, because he will be able to carry out another tasks existing on these kind of services.

## 5. Conclusions

The proposal here formulated has a double direction: the social classification of journalists is useful and the retrieval criteria from a professional perspective for the cyberspectators, and the social classification of users ease the retrieval process for journalists, thus marking down the costs on human and economic resources designated to the documental management by the television companies.

This collaboration is specially beneficial for the televisive company derived from the low cost of the audiovisual production (production in which the use of resources of the archive is included), while the interconnection with users is strengthened and in a certain way with the televisive brand and hence they get involved into it, being part of the network. This sense of belonging and collaboration, in a certain way fosters loyalty to such users.

In order to success with this joint task it's necessary to award the user to begin the development of a task which they are not get used to do it. Visits to some set recording studios, installment of computer equipments, short interviews with actors of television series, etc. are some of the elements that can be used in order to foster



loyalty and thus a social classification with quality.

Moreover, this task can develop starting from a true: user and journalist use the same communicative codes. Not only the same language, the is something essential, but they understand and define audiovisual codes in a similar way, and makes validity of taggins easy that implement the folksonomy.

In short, this proposal has its complications, but also it has advantages that make viable its implementation, for becoming a proper tool to complement the documental tasks, once its validity is identified, for being a substitute for motion images.

The trend towards the automation of documental processes is unstoppable, looking for techniques and alternatives that make easier the documental task face to an explosion of audiovisual contents and specifically of the televisive ones.

The social classification of audiovisual information in television repositories has great potentialities. As future work, we can work on the social classification shared between television networks. This work would be important for associated television companies, being able to detect lines of interest for users. These lines could be useful both for the MAMs and for analyzing the audiovisual contents to be broadcast.

Another relevant work would be to start the proposal on a television channel, controlling the process and verifying results through transactional analysis.

But the most important challenge is the automation of the documentary process. Although this development is still far away.

## 6. Acknowledgements

This work has been funded by the Board of Extremadura (Office of Education, Science and Technology) and the European Social Fund under the support plan for the activities conducted by the Research Groups registered in the catalogue of the Board of Extremadura. GR10019.

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