

# Linking Multimedia Metadata by Using Microblogging Network

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With the huge usage of the Web, information has become even more important part of people's lives. Whether we are interested in a picture, a video, a document or a status on a social networking service (SNS), there is always an intention to discover something new. Generally, many researchers are trying to find the best way to characterize any information. In our study we are focusing on metadata in the domain of multimedia and television.

The more content available, the more difficult task is to create corresponding metadata. Existing methods, which rely on static text-based descriptions and annotations, are suffering mainly because of two reasons [1]:

- Annotating content manually is a time-consuming activity.
- Descriptions made by a low number of annotators may result in higher level of subjectivity.

There is also a large disadvantage resulting from the static content. Sometimes it may be really difficult to keep it updated. In addition, if we were dependent on this kind of information, our metadata would become quickly invalid.

A better approach is to combine the static content with the dynamic one. A large potential in building the metadata database is hidden in the SNS. In the semantic Web area it is considered to be the one of the most researched phenomenon. Facebook and Twitter represent the top of the SNSs pyramid. Both services provide wide range of possibilities for people to share their everyday life, each of them having a slightly different approach to serve information. Although Twitter's messages - called "tweets" - are strictly limited to maximum of 140 characters, they may still contain significant information. Their popular part - hashtags - has become an interesting area to study for many researchers. Hashtags actually incorporate categorization right into the tweets. On the other hand, Facebook does not limit the length of their statuses, though the popularity of hashtags is lower and the researchers have to rely on natural text

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processing. However, according to [2] the popularity of Facebook in Slovakia is in comparison to Twitter markedly higher.

Another area of interest is sentimental analysis, which has been already analysed and evaluated in many other works. Proposed methods were generally able to process content from Twitter and categorize it by its emotional and subjectivity polarization. In our work we would like to analyse whether a consideration of such a categorization would have any impact on quality of TV programmes and therefore produce new metadata.

Besides emotions, activity on SNS might be linked with the level of popularity. There are many influences on programmes' success, e.g. the number of followers of fan pages or relevant comments. To reveal the popularity correctly, it is necessary to include a dynamic aspect, since the popularity varies in time – especially in the domain of television. We can also go further and expect popularity to positively correlate with TV schedule's viewing ratings. An example has been introduced in [3], where the users' activity on Twitter was used to measure viewing rates of TV programmes in Japan. Authors had to face several problems of mapping tweets to Electronic program guide (EPG), geolocation and synchronization between TV schedule and tweets.

Many television companies use SNSs to propagate their programmes with desired articles and backstage photographs and videos, which is also one of the most straightforward ways to get in touch with their audience. People's activity on public statuses makes an opportunity to reveal other relevant content. Acquired information can be shared with the whole community afterwards and improve another processes related with spread of TV content (for example recommendations).

In our work we are trying to propose an innovative method to interlink TV and SNSs. Our main goal is to extract and capture metadata from available content shared by the audience and TV companies. These metadata are supposed to enrich existing databases and give an attractive extension. As stated before, Facebook's popularity in Slovakia is still growing. Therefore we have decided to focus our analysis on Facebook pages, which already provide natural categorization of public statuses similar to hashtags on Twitter.

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## References

- [1] Lambrini Seremeti and Achilles Kameas. 2007. Multimedia ontologies. In Proceedings of the 3rd international conference on Mobile multimedia communications (MobiMedia '07). ICST, Brussels, Belgium, Article 69, 7 pages.
- [2] Alexa - Top Sites in Slovakia. 17.3.2015  
<http://www.alexa.com/topsites/countries/SK>
- [3] Shoko Wakamiya, Ryong Lee, and Kazutoshi Sumiya. 2011. Towards better TV viewing rates: exploiting crowd's media life logs over Twitter for TV rating. In Proceedings of the 5th International Conference on Ubiquitous Information Management and Communication (ICUIMC '11). ACM, New York, Article 39, 10 pages