Diavideos: a Diabetes Health Video Portal

C.L. Sánchez-Bocanegra [a,b], A. Rivero-Rodriguez [a], L. Fernández-Luque [a], J.L. Sevillano [b]

[a] *NORUT (Northern Research Institute), Troms. Norway.*
[b] *Robot. & Comput. Technol Lab., Univ. of Seville, Seville. Spain.*

Abstract and Objective

Diavideos[1] is a web platform that collects trustworthy diabetes health videos from YouTube and offers them in a easy way. YouTube is a big repository of health videos, but good content is sometimes mixed with misleading and harmful videos such as promoting anorexia [1].Diavideos is a web portal that provides easy access to a repository of trustworthy diabetes videos. This poster describes Diavideos and explains the crawling method used to retrieve these videos from trusted channels.

Keywords: Diabetes, Health, Social Media, Youtube

Methods

Diavideos gathers videos that are selected based on HealthTrust algorithm [2]. The channels (aka video providers) selected using HealthTrust are those with high reputation within the diabetes community in YouTube, therefore avoiding misleading content providers that most likely will lack reputation. HealthTrust is a semi-automated method that allows video selection from trustworthy Youtube channels.. The method includes a manual evaluation carried out by health experts and then the crawler includes an automatic channel selection. Since November 2012, 31 trusted channels have been considered. Videos are automatically integrated every 30 minutes following the method outlined in Table 1. The crawler automatically scans YouTube's resources to select videos and to insert them into the Diavideos web. Its configuration allows us to show and customize videos in different ways. Diavideos includes an open source and social platform, developed based on the web platform Drupal, which allows users to retrieve trustworthy diabetes videos. The output of our system includes metadata and video properties (tags, categories, description) together with the embedded video. Users can use Diavideos for searching diabetes videos, which are in YouTube without having to get concerned with misleading content.

Results

So far, over 1080 trusted videos have been gathered from 31 diabetes channels and 6 playlists. Crawler can update or insert up to 100 videos on each iteration (30 minutes). In addition the system automatically deletes the videos that have been deleted from YouTube. The crawler retrieves the videos, inserting and indexing them in Diavideos so they can be retrieved in Diavideos searches.

[1] Diavideos web http://ehealth.norut.no/diavideos

Conclusions

Obviously the success of this approach depends on the quality of the videos on YouTube and on the quality of our selection. In our case, the final selection contains many trustworthy videos using the algorithm HealthTrust to filter out misleading information, and gets most contents from hospitals and medical institutions.However, the issue of whether these videos can be trusted or not is still open. Our approach is to focus on the authoritativeness of the person or channel the video belongs to. Preliminary experiments with our videos demonstrate that this approach provides a relationship between these videos properties and diabetes structural and functional health properties Further evaluation with final users is expected to take place by end 2013.

Table 1: Crawler pseudo-code

```
Pre-selection (HealthTrust)
  Select channels & Playlist from YouTube video rec.
  Apply HealthTrust algorithm [22].
  IF passed THEN
      Include in Diavideos Channel/Playlist list
  END IF
Automatic crawler functionality
  Repeat every 30 minutes
      Retrieve last state (for updating or inserting)
      IF last state does not exist THEN
              Create new state and initialize
      END IF
      Get channel/playlist and index it.
      Take next 50 videos to be updated from Diavideos
      Take next 50 videos to be inserted from YouTube
      Store video properties in Diavideos
      Save new states
```

References

[1] Yom-Tov E, Fernandez-Luque L, Weber I, Crain SP Pro-Anorexia and Pro-Recovery Photo Sharing: A Tale of Two Warring Tribes J Med Internet Res 2012;14(6):e151 URL: http://www.jmir.org/2012/6/e151/ doi: 10.2196/jmir.2239 PMID: 23134671.

[2] Fernandez-Luque L, Karlsen R, Melton GB. HealthTrust: trust-based retrieval of you tube's diabetes channels. Proceedings of the 20th ACM international conf. Inf.. New York, NY, USA: ACM; 2011 [cited 2012 Oct 27]. p. 1917–20. Available from: http://doi.acm.org/10.1145/2063576.2063854