

# Diamond Road Online: a user-guided documentary experience

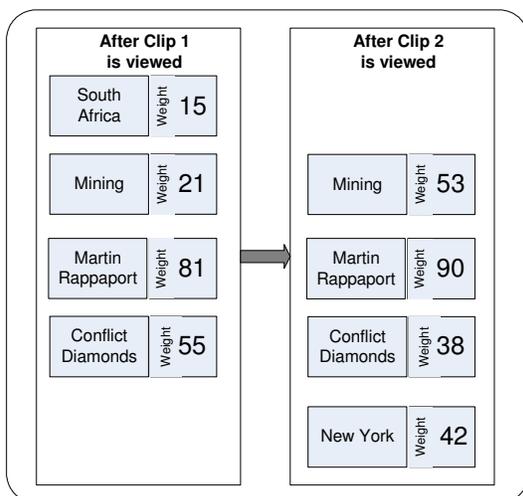
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## 1. Introduction

Diamond Road Online (DRO) is an experimental interactive documentary system that uses a unique interface and a software recommendation system to tell stories of the global diamond trade. It is associated with Kensington Communication's 3-part television documentary "Diamond Road", airing internationally. DRO uses a spreading-activation net and a collection of keyword-tagged media content to let viewers browse through a documentary database in a connected fashion. The DRO system uses software intelligence and user-recommendations to develop a custom documentary movie "on the fly", as users move from video-clip to semantically relevant video-clip. Diamond Road Online reworks, re-imagines and significantly extends Davenport and Murtaugh [1995] in its inclusion of story-telling-model meta-tags, the incorporation of user-feedback/content, the concept of story-sequences, the user-interface/representation-of-state, and the development of a robust/reusable and publicly accessible architecture.

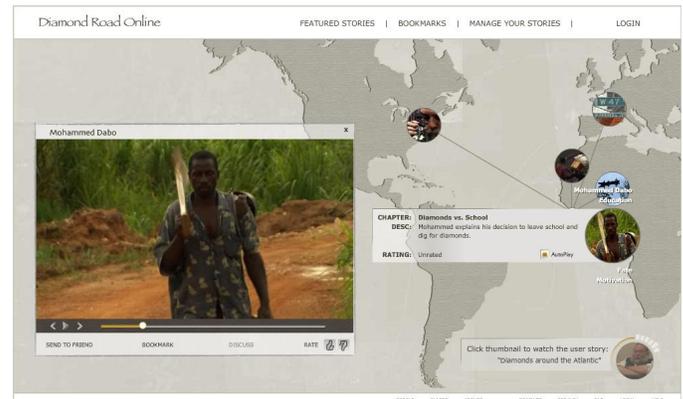
## 2. Exposition

A corpus of over 8 hours of video, text, photo or audio vignettes (1-3 minutes in length each) was fed into a database. Each piece of content was be tagged with descriptive meta-information using a combination of top-down ontologies and bottom-up folksonomies. Users are able to browse and view any of these micro-stories through a Flash interface. Our recommendation algorithm tracks the key-words for recently-viewed content using the notion of 'activation energy' in a spreading-activation network. It then searches the database for content linked to similar keywords, in order to find contextually relevant media the user hasn't yet seen. The top recommendations are presented to the user to preview or select from, providing a passive "guided search" through a rich-media database.



Normalized Weights as content is viewed

Keywords can exert more or less influence on database-searches for related keyword-linked content, based on time-decay, popularity, availability and uniqueness. The recommendation engine can use simple models for how good stories evolve [eg: "introduction" before "details" for a given topic] to further refine its recommendations. In addition to keywords, the algorithm incorporates user feedback aggregated over time. Users can vote for and rate content as they view it, which will influence recommendations for later viewers. They can also collect media-clips together into story-sequences, allowing a type of editing to tell their own stories and generate their own content. These user-generated stories can then be shared with other users through the same software-recommendation algorithms, creating "mini-documentaries" that offer a particular point of view.



## 3. Conclusion

DRO represents an innovative approach to storytelling, in which users and content-creators collaborate in the viewing experience. The project can be expanded/improved using the existing content, and the engine can also be customized for other stories or modes of interaction. The content corpus can evolve and be edited as content is changed (eg: updates from correspondents, latest news on an issue) on-the-fly, without any re-processing of existing content. The Diamond Road Online documentary experience is online and available to the general public at <http://www.diamondroad.tv>, and the concept/software is being explored for future documentary subjects and for domains such as news and media-archiving.

## References

Davenport, Gloriana and Michael Murtaugh, "Con Text: Towards the Evolving Documentary", in *Proceeding of the Third ACM International Conference on Multimedia*, ACM Press, San Francisco, 1995, 377-378

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