Digitizing the Newsreels collection at the Hellenic National Audiovisual Archive: A Case Study

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A number of projects funded by the 3rd EU Information Society Framework, have been developed in the Secretariat General of Communication and Secretariat General of Information in Greece in order to place Mass-media authorities, Universities and private companies and the public under a unified framework, to provide coordinated e-government solutions and an integrated service provision. Among these projects, the system that we describe in our paper has been implemented providing to the Hellenic National Audiovisual Archive (HeNAA), innovating e-services to the public and simultaneously achieving the most fundamental missions of the HeNAA which is to collect, preserve and maintain, present and exploit historical and cultural audiovisual material. The project aims at digitizing, organizing, annotating and presenting the content and metadata of the first collection acquired by the Hellenic National Audiovisual Archive following its establishment on 2006 that is the Greek Newsreels collections and related material. This content is about 935 Km film (35mm & 16mm), duration of 600 hours and includes documentaries of the 20th century of the political, social, cultural and financial life of Greece. The system was developed to manage, annotate, store and present the digitized content. The functionalities of the system include the ability to annotate the original material, for example the annotation of the maintenance cycle, the storage location, format details etc. Furthermore it facilitates the storage of digitized video in different formats. It supports the annotation of its origin, of its format details and its content. Every video can be divided into themes and annotated per theme separately. The annotation history is recorded and controlled vocabularies are created and used throughout. The system also supports multilingual interface and annotation, different levels of access, user management and statistics. Finally it provides extensive search capabilities and presents annotated digitized material via a web portal. The web portal is accessible mainly from (who are the internal and external end-users of the system). The software system is a web based application, split into two modules, a backend and a frontend module. The backend is responsible for data storage and management, while the frontend provides internet access to the videos and their annotation. The system's layout follows an n-tier architecture, with separate layers for data storage, business logic and presentation. The data layer consists of a relational database. The business logic is represented by a set of business related objects which are persisted via an object relational mapping framework. Further business logic is encapsulated in the controller objects of the web application. The presentation layer is the topmost level of the application which provides the user interfaces. All searching is performed with the help of a high-performance, full-featured text search engine library. The user interfaces were made more interactive with the use of Ajax technology. Many user input fields generate on the fly suggestions to partial inputs by asynchronously querying the database in the background. Media delivery is performed utilizing modern streaming technology, which circumvents the download of unnecessary media content to the user.