A Multimedia Approach to TV-media Literacy

Bent Østebø Johansen
Bent Foyn
Thorstein Lunde

Norwegian Computing Center
Gaustadalléen 23
P.O.Box 114 Blindern
N-0314 Oslo, Norway
email:Bent.Johansen@nr.no

In the project "LAVA Education in the Oslo schools", the Norwegian Computing Centre has carried out research on the use of high quality multimedia content in education. 80 schools in Oslo are involved, and have been given broadband access to the Norwegian Research Network as a part of the project. Our research has focused on development of a net-centric authoring tool, LAVA Media Tools (LMT) that allows the user to annotate video. The content may be selected from various sources on the Internet. Based on the authoring tools, we have investigated how teachers can combine different media types into an interactive multimedia presentation.

LMT was realised using Java Media Framework (JMF), which is a collection of classes that enable the display of multimedia data within Java applications and applets. It specifies a unified architecture, messaging protocol and programming interfaces. A typical application is made up of one or more player objects, each player object responsible of playing one data type. In the project we implemented player objects capable of displaying text and images. The images can contain hyperlinks that, when activated, stop the presentation and display a specified web page. Editing tools were integrated in the players. The user can edit hyperlinks, select text and pictures to be displayed, and schedule their presentation.

Experiences with practical use of our system indicate that the JMF synchronisation model is too simplistic for a substantial group of applications. The only synchronisation mechanism built into JMF is that a player can have slave JMF players starting and stopping with their master. In the current version of our application, all players have to start at the same time and run concurrently. This means that it is impossible to stop the video while displaying the textual and pictorial information. As a result, viewers of the presentation have reported difficulties in choosing which visual element to give their attention to.

One experience from "LAVA Education" is that the suitability of video in multimedia presentations seems to vary. Topics with focus on visibility and movement, and topics that benefit from annotations are especially suitable. In our project, media analysis came up as a particularly interesting application when applied to TV programs such as the news. TV is a momentary medium where different story telling techniques can be applied to give biased presentations. Played asynchronously, these techniques can be thoroughly addressed and analysed, and the video may be annotated accordingly.

In a proceeding project, "LAVA learning", we are focusing how the pupils and students can use multimedia authoring tools in project based learning. Media understanding and analysis is one of the chosen subjects. The content base is television news annotated and made searchable by NRK, the major Norwegian TV broadcaster. By using Lava Media Tools, we hope to provide a setting for a "learning by doing" approach to media analysis. For example the pupils may view a news story several times and identify the different story telling techniques used. LMT allows pupils to annotate at the exact points of occurrence. They can link to prototypical uses of the same technique, classical examples or literature where the techniques are described. The result of the project work will be a net-based multimedia presentation that can be shown in the class. The technological research will focus on the need for an extended synchronisation model meeting the user demand for greater flexibility. We are also

continuously watching the development of emerging technological platforms that may potentially offer the needed functionality.

During the last years, media literacy has been introduced in the Norwegian Teaching Plan for the school as an integrated part of several subjects. It has been considered that the skill of critical viewing will be of major importance for the pupils and students. We believe that a tool like LAVA Media Tools can help the students and pupils to a more profound media understanding.