Managing Temporal Knowledge Underlying Multimedia Presentations

Many interactive authoring tools were developed. However, synchronization of a multimedia presentation is still a difficult task partially due to the constant change of a presentation design. In this paper, we use the Z notation to analyze the temporal knowledge underlying a multimedia presentation. Four temporal specification statements are proposed, which specify the relations of temporal intervals. These statements are translated to some internal temporal relations before the final representation of a presentation time frame is generated. The system is implemented with a ICON programming graphical interface, which allows a presentation designer to drag and drop presentation resources obtained from a multimedia database in the process of a presentation design. The early experience of using the system shows that it is feasible to use logic inference rules to assist the design of good multimedia presentations.