CONTEXT−AWARE DYNAMIC PRESENTATION SYNTHESIS FOR EXPLORATORY MULTIMODAL ENVIRONMENTS (FriAmOR2)

Author(s) :
Harini Sridharan (Arizona State University, United States of America)
Ankur Mani (Arizona State University, United States of America)
Hari Sundaram (Arizona State University, United States of America)
Jennifer Brungart (Arizona State University, United States of America)
David Birchfield (Arizona State University, United States of America)

Abstract :
In this paper, we develop a novel real−time, interactive, automatic multimodal exploratory environment that dynamically adapts the media presented, to user context. There are two key contributions of this paper – (a) development of multimodal user–context model and (b) modeling the dynamics of the presentation to maximize coherence. We develop a novel user–context model comprising interests, media history, interaction behavior and tasks, that evolves based on the specific interaction. We also develop novel metrics between media elements and the user context. The presentation environment dynamically adapts to the current user context. We develop an optimal media selection and display framework that maximizes coherence, while constrained by the user–context, user goals and the structure of the knowledge in the exploratory environment. The experimental results indicate that the system performs well. The results also show that user–context models significantly improve presentation coherence.