Computational Models of Narrative and their relation to Human Action

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ABSTRACT
Psychologists suggest that people perceive and interpret activities and behaviors by structuring them into a narrative. The foundational role stories play in our cognition is our motivation for research within the Liquid Narrative Group at NC State: we are interested in creating computational models of narratives within interactive contexts, to provide insight into our own intelligence. Leveraging work from cognitive psychology as a basis for explaining how we might structure streams of incoming information into a narrative, our focus is on what narrative information can be used to predict and guide human action. To better control for narrative content and human activity, we use interactive narrative virtual environments, e.g. video games. We thus seek to characterize the relationship between a player's understanding of an interactive narrative and her options for action within it. In this paper, we highlight the foundations of our work and provide a framework to help characterize narrative information that might bear relevance in predicting and guiding human action within the context of interactive narratives. Central to this approach, we define the notion of narrative affordance. In essence, a game provides a narrative affordance for some course of action when a player can imagine that course of action as part of a story that completes their current story experience.

Keywords
Theory, affordance, games, cognition