

Using Domain Compilation to add Belief to Narrative Planners

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Abstract

Using domain compilation, we present a narrative planning system that is capable of creating narrative plans that use both character intention and character beliefs. We introduce a model capable of representing character beliefs in PDDL domains. This model allows characters to fail at actions when their beliefs about the world differ from the actual world state. Domains of this type can be compiled into purely intentional domains, and fed as input to intentional planners. The resulting stories feature characters that pursue their own intentions based on their own knowledge of the world, learn from mistakes to update their beliefs, and communicate information to each other. These types of stories are not possible with purely intentional domains.