Proposed Chapter: Getting Creative with Actions

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1 Objective and Motivation

The goal of the proposed chapter is to broaden the ways that authors think about actions in the context of Interactive Storytelling. While an action is generally something that the audience/player can do to affect the progression of an interactive story, authors often create their actions in a highly specific way: each player action is made to cause a direct and immediate change to the state of a narrative world. Examples include progressing to a specific line of character dialogue because of what the player just chose to say, moving the player's position in the story's world because they typed "go north", or changing the colour of the player character's hair because the player chose to dye it. While a rich and diverse set of interactive stories have been made using only this kind of action, my recent research has found that many other kinds of action exist [5]. These different kinds of action can be used to broaden an author's repertoire, enabling new opportunities for player interaction.

2 Overview of Content

The proposed chapter would provide an overview of my recent work [5], which both generalizes and refines Koenitz's notion of an interactive narrative process [2]. My work proposes an *interactive process* as a collection of data and functions that enable the iterative change of a particular *target object*, as shown in Figure 1. In the simplest *interactive narrative process*, the target object is the state of a narrative world, and one or more players perform specific actions that can change this state by executing the process's *action function*. The value of the interactive process is twofold: (i) it provides a general way to model how a
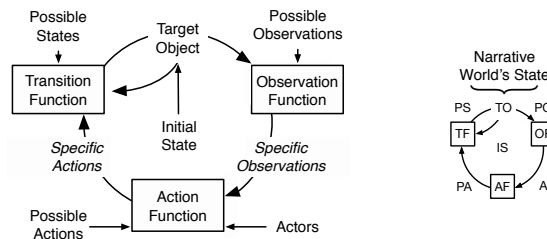

Fig. 1. Left: A diagram of an interactive process. Arrows show the flow of data while boxes show functions. Large arrows show the interactive loop. Right: A minified version of an interactive <u>narrative</u> process; the target object is the state of a narrative world.

player's actions might change any targeted object of interest, and (ii) it suggests potential target objects that are different from the state of a narrative world.

To begin with, the potential targets for change are the data and functions of a simple interactive narrative process. For example, one could imagine allowing a player to change the *transition function* (similar to a game's mechanics) that governs how a simple interactive narrative process proceeds. In a game of *Dungeons & Dragons* [1], this would be akin to allowing players to rewrite parts of the game's rule book. In *The Ice-Bound Concordance* [4], this kind of action allows players to interactively "sculpt" the structure of several narratives [3,5]. Each *kind of action* differs from other kinds of action because it has a unique target object; one kind of action changes a narrative world's state, another kind of action changes a narrative world's transition function, another kind changes the set of possible actions, and so on.

To help authors uncover and consider various kinds of action, the chapter would present a new method for modelling narrative interaction as a collection of connected interactive processes [5]; see Figure 2 for an example of one result. Each process in the collection has a different target object, and thus any players who perform actions in that process have an additional kind of action that they can perform. The modelling method is flexible, incremental, and generative, allowing authors to analyze existing works or discover new kinds of action.
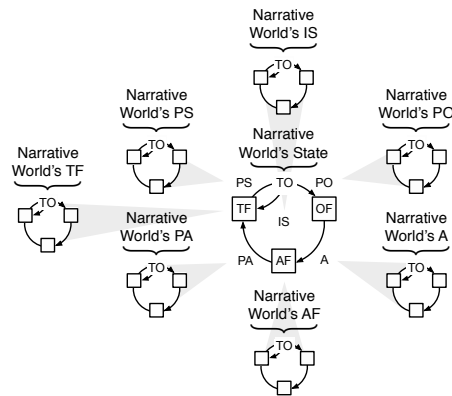

Fig. 2. A complete model of *Dungeons & Dragons* [1]. See Figure 1 for details.

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