MyDramatisFabrica : An Ontology for Annotating and Performing Playscripts

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Context: The general context for this Master's thesis is interactive drama – ie using 3-D computer graphics and 3-D animation for telling and showing stories [1,2]. One important requirement in such applications is to establish a relationship between named entities in the story (characters, objects, places and events) and objects in the 3-D scene (3-D meshes and 3-D animations). Establishing this relationship makes it possible to direct virtual actors in pseudo-natural language [3,4] which is a powerful and promising approach for interactive drama.

Objectives: In classical drama, the dramatis personæ (Latin: "persons or characters of the drama") is a phrase used to refer collectively, in the form of a list, to the main characters in a dramatic work. For the purpose of this internship, we generalize the concept to all elements of the drama, including places, objects and events.

Following a methodology previously developed for human anatomy [5], the goal of the internship will be to build an ontology for the generalized dramatis personae of a story and a query engine for finding 3D models and assembling them into 3D animated scenes that represent the story.

A prototype will be validated on a short movie scene, where our goal will be to annotate the movie screen and the 3D scene with the proposed ontology, then to compute correspondences between the story and the 3D scene, allowing to visualize the story in the 3D scene. If time permit, we also would like to introduce variations by replacing objects, actors and actions, and to show the resulting changes in the 3D scene. The internship will likely lead to a PhD thesis on a similar topic.

References

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