Solving the Movie Database Case: An e-Motions based solution

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Abstract. TO-DO

1 Introduction

TO-DO: what is e-Motions? **TO-DO**: why rewriting logic?

1.1 e-Motions

TO-DO: Introduction to e-Motions rules **TO-DO**: solo usaremos reglas sin tiempo

2 Solution

TO-DO: explicar cómo cada tarea viene dada por la definición de un DSL. En la mayoría de los casos la sintaxis puede ser reutilizada pero no el comportamiento (?)

2.1 Task 1

Task 1 consists in to generate synthetic models (conforming the movie database metamodel [2]) from an input parameter $N \geq 0$. Following an e-Motions based approach, we define the abstract and concrete syntax and the behavior of our so-called *Task 1 DSL*, which takes an empty model and a parameter N and generate as output a model.

As it has been introduced in Section 1.1, the abstract syntax of a DSL is given by means of a Ecore metamodel, which is provided in [1] and, in the following, we call it *Movies MM*. However, the *parameter N* concept has to be modeled in some way, since in e-Motions the state[(i)] is just a model. Hence, a new concept call `Parameter` with two Integer attributes `nP` and `nN` (positive and negative graphs respectively) has been added to Movies MM. This results in a so-called *Movies* MM*.[(ii)]

For the concrete syntax, Fig. 1 shows how an image has been attached to each concept modeled in the Movies* MM. The behavior of this *Task 1 DSL* is given by means of two in-place rules: `createPositive` and `createNegative`. Figure 2a

[(i)] con este state me refiero al estado del sistema, de una ejecución

[(ii)] podríamos referenciar a los trabajos donde esto se hace de forma modular

shows the `createPositive` rule, which takes an object `p` of type *Parameter* with nP attribute is greater or equal than 0 and, after the rule application, synthetic data conforming to the Henshin rules [2] are created. Fig. 2b shows the `createNegative` rule, which is analogously defined.

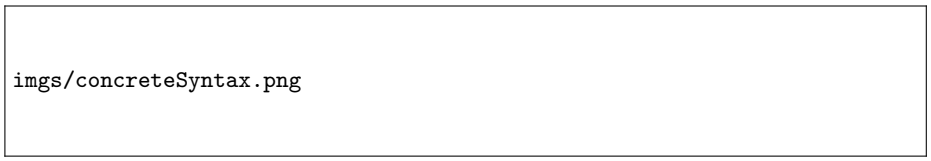
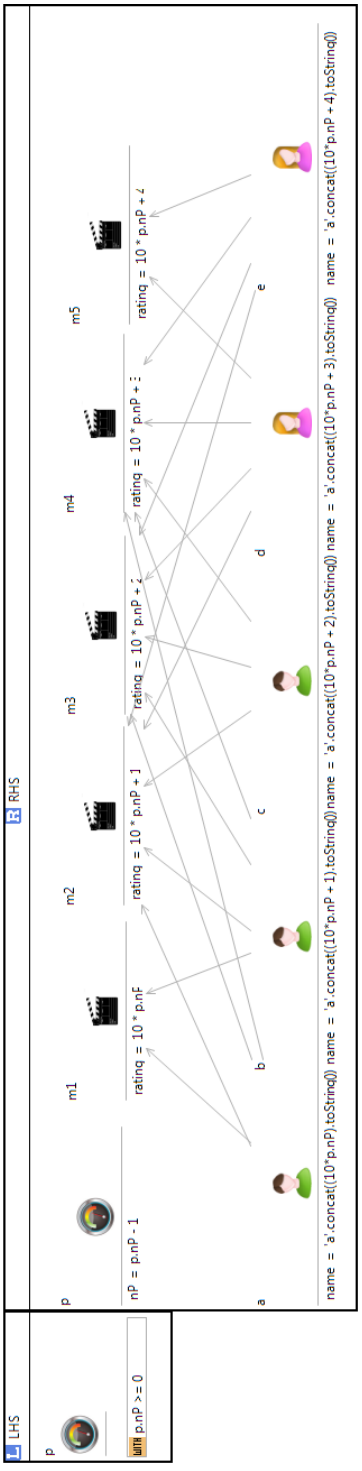


Fig. 1: Concrete syntax for *Movies* MM*.

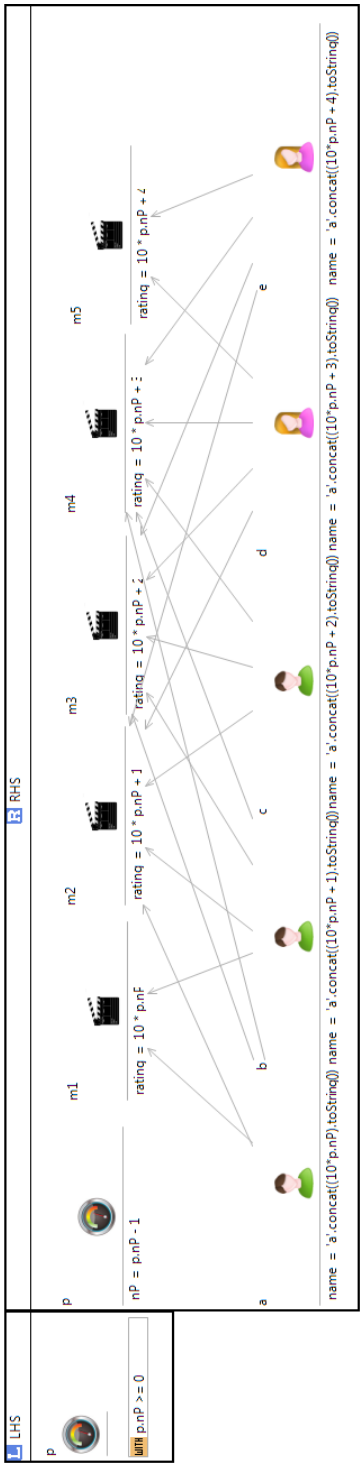
Once the syntax and the behavior of the system has been coded, the user may specify

References

1. Horn, T.: IMDB2EMF, `https://github.com/tsdh/imdb2emf`
2. Horn, T., Krause, C., Ticky, M.: The TTC 2014 Movie Database Case, available at TTC14 web site.



(a) The `createPositive` rule.



(b) The `negativePosition` rule.**TO-DO**: change it

Fig. 2: Task 1 rules.