StoryTec and StoryPlay as Tools for Adaptive Game-Based Learning Research

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Abstract. In this session we will present different ways in which the StoryTec framework can be helpful for researchers in the field of Adaptive Game-based Learning. From initial prototyping stages of complex, adaptive learning adventure games to authoring, cross-platform-publishing and evaluation of such projects, StoryTec offers a range of useful research-based tools which make the process faster and team collaboration easier. Interested researchers will be able to get guided hands-on experience with the authoring and evaluation tool.

1 Objectives

The authoring of adaptive learning games is not an easy task as it integrates several expertise fields. Moreover, researchers in this field often have the desire to create good educational games on the one hand and to effectively use them for research purposes on the other hand. Only few tools are available which can be used to facilitate this complex and time-consuming process. In this session we will present the StoryTec[1] environment which was specifically created for this purpose and demonstrate the ways in which it can support research on adaptive game-based learning.

2 Intended Audience

This workshop is primarily targeting researchers in the field of game-based learning but will also be of benefit to developers of serious games or educational software in general as well as educators.

3 Agenda

The workshop will be comprised of two elements, an introduction by the developers of StoryTec on the overall structure of the authoring tool and its application to game-based learning, followed by a hands-on session in which the audience works with StoryTec. The following topics will be presented:

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[1] Available for an open community for free at http://www.storytec.de

3.1   The Authoring Process of Educational Games

During the creation of an educational game, an interplay between different disciplines (technical, including especially game programmers on the on hand; pedagogical, for the learning aspects of the game on the other hand). The various phases and roles in the production of digital educational games are discussed, along with challenges frequently faced and the solutions offered by StoryTec.

3.2   Creation of Adaptive Narrative Learning Games with StoryTec

We will discuss how StoryTec makes it easy to build adaptive learning games based on the theoretical model of Narrative Games based Learning Objects. Using this model, authors can specify how an adaptive system included in StoryTec will influence the game based on the input of the player.

3.3   Rapid Prototyping and Iterative Authoring with StoryTec

A specialized version of the StoryTec player called "StoryPlay" (see Figure 2), allows researchers/testers to play a created game while simultaneously analyzing context information about game flow, logging and game logic update. We will present how this can be used for evaluation purposes. Figure 1 shows the workflow resulting from this approach: Intermediate game versions are created in StoryTec. Based on playtests of these game versions, authors can change and improve the games.
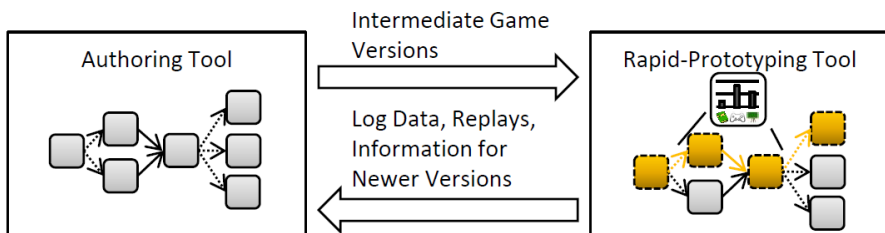

Fig. 1. Iterative Authoring with StoryTec and StoryPlay

3.4   Example Projects and Discussion

We will present some projects where StoryTec was used and discuss patterns and solutions found in these projects. Examples include the publicly available demo game "Favourite Places" included in StoryTec as well as the game "Der Chaos-Fluch" [2], a local tourism and culture serious game.

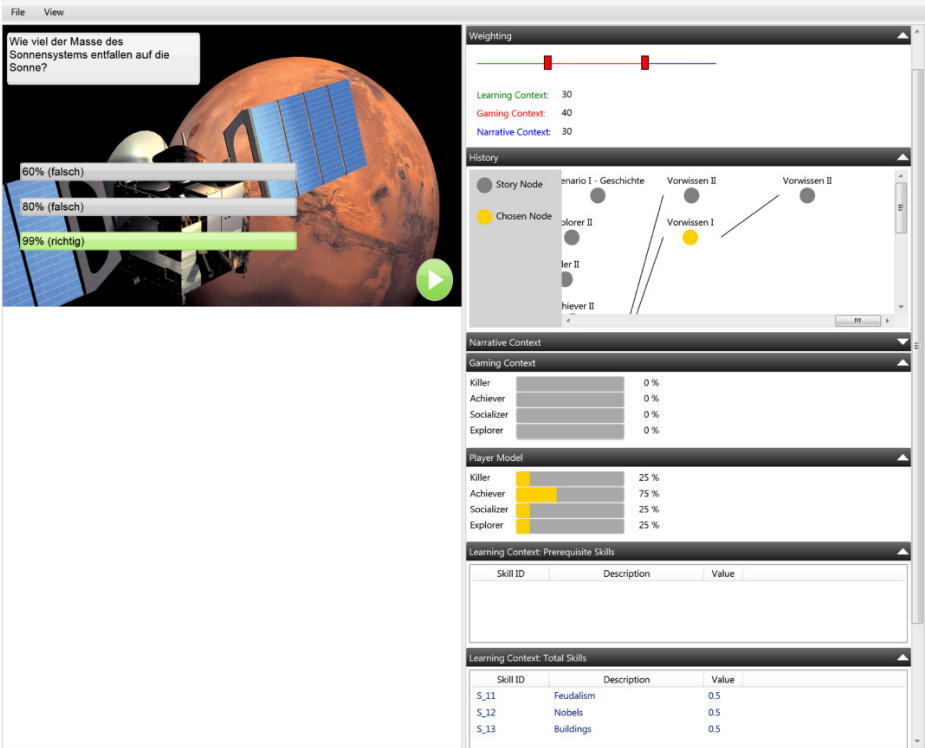[2] Available at `http://darmstadt-marketing.de/fileadmin/spiel/`

Fig. 2. The rapid prototyping and analysis tool StoryPlay

3.5   Hands-on Training

The participants of the workshop will be provided with a guided hands-on experience of building their own game in StoryTec. For this purpose, participants are invited to prepare the workshop by trying out the public version of StoryTec and assembling content they might require for a game. Suggestions are travel photos for an interactive travel journal-game or assets for a simple educational game. Assets for the hands-on training will also be provided for participants without own assets.

4   Equipment Requirements

Participants are asked to bring a laptop with Microsoft Windows installed.

References

1. Mehm, F., Göbel, S., Steinmetz, R.: Authoring of Serious Adventure Games in StoryTec. In: Göbel, S., Müller, W., Urban, B., Wiemeyer, J. (eds.) Edutainment 2012/GameDays 2012. LNCS, vol. 7516, pp. 144–154. Springer, Heidelberg (2012)
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