Creating Interactive Adaptive Real Time Story Worlds

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Abstract. This workshop aims at exploring and addressing the challenges of creating interactive adaptive real-time story worlds. Participants will through various activities create their own concept of such experiences while investigating the potential of the field. The workshop will furthermore invite for international collaborations focusing of creating novel formats for interactive adaptive real-time digital storytelling.

Keywords: Interactive digital storytelling · Adaptive real-time story worlds
The narrative paradox · Storytelling · Real-time film- and animation production

1 Introduction and Topic

In recent years, the film- and TV industry has finally realized the potential for using the real-time capabilities of GPUs and game engines for creating content in the traditional linear formats, as productions can now be played back live and interactively directly in a game engine.

The technologies have for example recently been used in the production of animated TV series (e.g. 'Zafari' (Unreal Engine 2018)) and short films (e.g. 'Adam' episodes I-III in Unity 3D (Oats Studios 2018)).

With these powerful real-time production technologies, there is not only a potential to make linear productions more streamlined, creative and cheaper, but we can also utilise the exact same technologies (and content) for creating new forms of interactive narrative content. This obviously calls for the expansion of novel forms of interactive adaptive real-time story world experiences (Schoenau-Fog 2015).

In such experiences, the narrative understanding may emerge through the participant's/user's behaviour and individual actions in an interactive digital story world, where the experience is adapted to the user in real-time by using e.g.:

- Procedural/generative design (where the experience is created by the computer on-the-fly).
- Artificial Intelligence (AI - where virtual actors are interacting with the user).
- Machine learning (where the computer for example is used to create and orchestrate events and actions in a storyworld, based on user behaviour).

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- Interactive characters recorded as performance avatars (virtual actors) and Real-Time Cinematography (E.g. Ninja Theory 2016).
- Knowledge about sustained user engagement in story worlds (e.g. Schoenau-Fog 2011)
- Game mechanics and narrative (Larsen and Schoenau-Fog 2016).

However, we believe that all this state-of-the-art technology is only a fraction of the equation. One of the challenges of creating these experiences is: How can the user's engagement in an interactive non-linear adaptive real-time free-roaming open story-world - e.g. as the one exemplified in Unity's 'Book of the Dead' project (Unity 2018) - be maintained by a 'story world builder' without the use of traditional linear dramaturgy and game mechanics?

In order to address such questions and to challenge traditional storytelling by developing truly novel interactive narrative formats beyond pre-determined branching structures, we need to create a fertile ground by launching an interdisciplinary community, where individuals, companies, and stakeholders with different backgrounds and skills meet. In such a collaboration, interactive storytelling scholars, film directors, programmers, game developers, 3D designers, sound engineers and other stakeholders are given the opportunity to experiment with the possibilities and address the challenges.

This workshop will be the one of the first steps in that direction

2 Purpose and Goals of the Workshop

The main purpose of the workshop is to address the grand challenges of creating engaging interactive adaptive real-time story world experiences by exploring the field through conceptualization. In other words: How can we conceptualize experiences in interactive adaptive real-time story worlds, which are exploiting the latest real-time technologies, while making users want to continue, in purposeful, short intense experiences?

Furthermore, the goals are to advance knowledge, set a direction for future discoveries, to identify challenges, to initiate an international community and gather ideas about future collaborative activities.

3 Format

Participants will be introduced to the concept of Interactive Adaptive Real-Time Story Worlds (iARTs) and will explore the potential by creating their own concept of such experiences through a number of hands-on activities. These activities will contain the conceptualization of various story worlds through exercises concerned with lifeless worlds, interactive worlds, worlds with entities, engaging worlds and worlds driven by the latest technologies.

Participants will thus explore the field, share their knowledge, discuss and identify the challenges of the creation and implementation of iARTs and suggest future activities while discovering possible solutions of the challenges of creating these story worlds.

Potential participants are interactive digital storytelling scholars and practitioners, storytellers, film directors, VFX creators, game designers and -developers, programmers, asset creators, media companies etc.

4 Expected Outcome

The expected outcome of the workshop is that each participant will gain knowledge of creating a concept of an engaging Interactive Adaptive Real-Time Story World. The concepts may later be used as inspiration for multiple purposes, for example learning, communication, entertainment or simulation.

Participants will also meet like-minded scholars and practitioners with the potential of future international collaborations within this field. Furthermore, the community initiated at this workshop will be invited for future workshops, events and summits concerned with the VIZARTs project, funded by the Nordisk Film Foundation.

5 Conclusion

Ever since the early days of interactive digital storytelling, one of the ultimate goals and holy grails has been to create interactive adaptive real-time story worlds (e.g. The Holodeck (Murray, 2017) and interactive theatrical experiences (Laurel 2013)). In the last couple of years, a range of technological advances have been made, which may have potential to change the scene. This workshop will (probably) not solve all the problems of this endeavour – however, participants will together gather knowledge and address the challenges by exploring the potential that these new technologies and formats may give.

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