

ASAP: Auto-generating Storyboard And Previz

Hanseob Kim*
khseob0715@kist.re.kr

Ghazanfar Ali*†
aliust@ust.ac.kr

Bin Han*
hanbin22@kist.re.kr

Hwangyoun Kim*†
daqjjang@ust.ac.kr

Jieun Kim*
092296@kist.re.kr

Jae-In Hwang*†
hji@kist.re.kr



Figure 1: ASAP system that enable users to simulate movie scripts as 3D-visualized/animated scenes using virtual humans.

ABSTRACT

We present ASAP, a system that uses virtual humans to Automatically generate Storyboards And Pre-visualized scenes from movie scripts. In our ASAP system, virtual humans play the role of actors. To visualize the screenplay scene, our system understands the movie script, which is the text data, and then facilitates the automatic generation of the following virtual human's non-/verbal behavior: (1) co-speech gesture, (2) facial expression, and (3) body movements. First of all, co-speech gestures are created from dialogue paragraphs using a text-to-gesture model trained with 2D

*Korea Institute of Science and Technology, Seoul, Republic of Korea

†University of Science and Technology, Seoul, Republic of Korea

Permission to make digital or hard copies of part or all of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for third-party components of this work must be honored. For all other uses, contact the owner/author(s).

SA '22 Real-Time Live!, December 06-09, 2022, Daegu, Republic of Korea

© 2022 Copyright held by the owner/author(s).

ACM ISBN 978-1-4503-9468-0/22/12.

<https://doi.org/10.1145/3550453.3570124>

videos and 3D motion-captured data. Next, for the facial expressions, we interpret the actors' emotions in the parenthetical paragraphs and then adjust the virtual human's face animation to reflect emotions such as anger and sadness. For body movements, our system extract action entities from action paragraphs (e.g., subject, target, and action) and then combine sets of animations to make animation sequences (e.g., a man's act of sitting on a bed). As soon as possible, ASAP can reduce the amount of time, money, and labor-intensive work that needs to be done in the early stages of filmmaking.

ACM Reference Format:

Hanseob Kim, Ghazanfar Ali, Bin Han, Hwangyoun Kim, Jieun Kim, and Jae-In Hwang. 2022. ASAP: Auto-generating Storyboard And Previz. In *SIGGRAPH Asia 2022 Real-Time Live! (SA '22 Real-Time Live!)*, December 06-09, 2022. ACM, New York, NY, USA, 1 page. <https://doi.org/10.1145/3550453.3570124>

ACKNOWLEDGMENTS

This work was supported by the Korea Creative Content Agency in the Culture Technology Research & Development Program.