BACKGROUND & MOTIVATION

Professional artists and designers make design decisions deliberately to emphasize the narrative contents of their visuals. See Fig. 1 for an example.

In traditional media such as sculpture and painting, but also in film, a static design process is used during the creation phase. In interactive media dramaturgy can permanently change depending on user interaction or dynamic factors. To be consequent visualizations should react on narration changes, so that narrative content and visualization are consistent.

SHAPE LANGUAGE

One of the graphic forms of expression is the "Shape Language". This means that an object transports a statement about its dramaturgical meaning through its appearance. Shape plays especially in sculpture a major role, where it builds the visual contours in interplay of light and shade. But it is also applied in painting and graphics for visual communication (Fig. 2, 3).

IMPLEMENTATION SCENARIO

During an internship within the DAAD/RISE international student exchange a prototypical scenario has been implemented at HCM Lab Augsburg, adapting the graphical Shape to real-time interaction. That is, if the dramatic content of an application is changed, then the shape of an object changes too, so that content-wise and visual expression are uniform. This deformation mechanism has been realized simply using Shape Keys and was prototyped using the Blender Game Engine. Fig. 4 shows transition states of a tree object that supports seamless transformation of its visual dramaturgy.

We built a simple game scenario where the player's decisions influence the content-wise dramaturgy towards a better or worse mood. The staging objects like plants, rocks and scenery elements adjust their shape correspondingly to visualize the narrative dramaturgy. Fig. 5 and 6 show the comparison of how our scene looks depending on the moral value of the user's decisions.

RELATED LITERATURE

Related publications deal with different aspects of "Cinematography", a term which bundles the set of visual narration methods in film and film-like media. A small selection of related work:

• M. Seif El-Nasr, J. Zupko, et al. multiply worked on cinematographics for light and camera with focus on artistic aesthetics.
• P. Oliver, M. Christie, et al. published multiple work on light and camera with focus on technology and algorithmic approaches.
• N. Holper et al. discussed aesthetic meaning of shape and appearance for user perception.
• J. van Sijll published "Cinematic storytelling", describing 100 cinematography styles for movies.

ACKNOWLEDGEMENTS

Parts of the work presented in this paper are co-funded by the German Academic Exchange (DAAD) within the RISE (Research Internships in Science and Engineering) programme www.daad.de/rise.

PUBLICATIONS (2011)
