SIGNING AVATARS: APPROACHES, REQUIREMENTS, AND SUCCESS FACTORS

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The 2018 WFD/WASLI statement on the use of signing avatars specifies cases for which developing and applying signing avatars can be considered acceptable, such as that of rendering parametric customer information at train stations or in hotels. While we see many projects that advertise the successful deployment of a system capable of translating spoken language into sign language, they are most often short-term endeavors with limited or missing ties to the Deaf community. When considering such an effort, it is important to note that this process essentially requires two steps: a core translation step in which the grammars of the source and target language are accounted for, and an animation step in which the grammar of the sign language translation is used to define the motion of the avatar. Opportunities for the involvement of the Deaf community exist in both of these steps.

Different approaches to sign language animation exist. Signing avatars animated by hand, i.e., by manually posing an avatar, have the potential to be of high quality, as has been demonstrated with the marvelous Pedro avatar created for WFD 2007. In order for these avatars to be applied in public information settings like the ones outlined above, they have to be extended by a system that allows for combining individual animations into new utterances at runtime. Such systems are highly non-trivial.

The aim of this talk is to give an overview of different approaches to sign language animation and discuss the strengths and weaknesses of each approach, with particular emphasis on the suitability of each approach for use in a setting targeted by the above-mentioned WFD/WASLI statement. We then present work that has approached the task of developing a signing avatar for settings in which interpreters are naturally unavailable, as set out in the WFD/WASLI statement. From this, we derive factors that we consider essential for the successful development of signing avatars in the future, among which is first and foremost the involvement of Deaf native signers. The talk ends with a joint discussion in which we invite the attendees to share their vision of future applications of avatar technology.