tuniSigner: An Avatar based System to Interpret SignWriting Notations

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Virtual Reality is an exciting technology that holds great promise for delivering innovative new ways for people with special needs to deal with information more easily. For instance, signing avatars are virtual human characters capable of performing sign language utterances in a three dimensional environment. They are actually used by deaf community for interpreting television news, teaching school subjects, creating sign language dictionaries, and displaying SMS message content on mobile phone screen. These digital humanoids provide a cost effective and efficient way to make all kind of information accessible to sign language users.

In this paper, we present an avatar-based system named tuniSigner for synthesizing virtual reality animations from SignWriting notations. The virtual signer will display and interpret the transcribed gestures in natural and comprehensible movements. Certainly, showing how the actual gestures should be performed in visual-gestural modality would be very useful for deaf signers.

The proposed system includes basically three main modules to process the SWML signbox of the input notation, generate its corresponding linguistic representation, and convert the incorporated manual and non-manual features into Sign Modeling Language SML, a gesture description language developed by WebSign project to drive a synthetic human character. tuniSigner is available online at: http://tunisigner.com/.