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Sign language is the primary communication medium of the aurally handicapped community. Often, a sign gesture is mapped to a word or a phrase in a spoken language and named as a conversational sign. A fingerspelling sign is a special sign derived to show a single character that matches a character in the alphabet of a given language. This enables the deaf community to express words that do not have a conversational sign, such as a name, using a letter-by-letter technique. Sinhala Sign Language (SSL) uses a phonetic pronunciation mechanism to decode such words due to the presence of one or more modifiers after a consonant. Expressing numbers also have a similar notation, and it is broken down into parts before interpretation in sign gestures.

This article presents the variations implemented to make the 3D avatar-based interpreter system look similar to an actual fingerspelled SSL by a human interpreter. To accomplish the task, a phonetic English-based 3D avatar animation system is developed with Blender animation software. The conversion of Sinhala Unicode text to phonetic English and numbers written in digits to sign gestures is done with a Visual Basic.NET (VB.NET) application. The presented application has 61 SSL fingerspelling signs and 40 SSL number signs. It is capable of interpreting any word written using the modern Sinhala alphabet without conversational signs and interprets the numbers that go up to the billions. This is a helpful tool in teaching SSL fingerspelling and number signs of SSL to deaf children.

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