

Avatars

## Performing Hands

### Business Challenge

GameLab London were producing “Performing Hands”, an educational resource to develop the literacy of deaf children. “Performing Hands” would include video stories and educational games designed to help deaf children build grammatical sentences and create stories – in both British Sign Language (BSL) and English.

The reading and writing ability of deaf children at school leaving age is significantly lower than that of hearing children, as their first language is a signing language, such as British Sign Language (BSL), leaving them at a disadvantage to hearing children.

In order to make interactive materials that would be engaging for children, GameLab sought avatar technology that could be used within industry standard authoring systems.

### Our Solution & Expertise

The avatars were developed by researchers at the University of East Anglia specialising in virtual humans. The technology was adapted for ‘Performing Hands’ under a substantial contract through SYS Consulting Ltd working with the Shoreditch Consortium led by Gamelab London.

To allow the games to be viewed online, the delivery system used was Adobe® Shockwave, a plugin for web browsers that allows 3D content to be viewed in a web page.



An Xtra was developed for Adobe® Director, the authoring application for producing Shockwave content. The Xtra is a plugin library that generates and controls the avatar animation through Lingo, the Director scripting language.

BSL signing consists of both body animation and facial expressions, but Shockwave does not natively support the latter (known as morphs or blend shapes), so new techniques were developed by the University and GameLab to implement this.

The Xtra was also designed to include scripted non-signing animations, such as walking and pointing, that could be written in Lingo to dynamically control animation in the games from a user’s input.

Professor John Glauert, Executive Director of SYS Consulting said: “It is very exciting to see cutting-edge animation research from the University being applied for the benefit of the deaf community.”

### Business Benefits

The avatar technology developed by SYS Consulting allowed the rapid development of interactive games using sign language. New signs can be created without the need for studio-based video or motion-capture sessions and can be applied to new virtual human characters directly.

Martin Wright, Director of Gamelab London, said: “It was great working with the University on this project. Their avatar technology has added real magic to the project.”

“Performing Hands” was nominated for a BAFTA Children’s Award in Autumn 2008.



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