**Visualizing music through movement**

For full-service brand experience agency Phenomblue, combining strategy, design, and technology into innovative creations is more than just a job, it’s a passion. Biannually, the team engages in their Signature Reserve innovation initiative, creating an internal research and development project that fuels ideas and insights. For one of its 2012 Signature Reserve events, Phenomblue experimented with Microsoft Kinect as a tool to detect movement and create music that could be seen.

The agency worked with Adobe Flash technology to create an immersive musical and visual experience called Daydreamer. As the project took shape, the agency began exploring how it might benefit the hearing-impaired community. After seeking input and making recommended adjustments, Phenomblue shared Daydreamer with the Iowa School for the Deaf, where hearing-impaired students were able to take part in one of the most fundamental human experiences—making music.
Innovating creativity with Microsoft Kinect

Daydreamer captures user movement using Microsoft Kinect and transforms it into corresponding music and art on a virtual canvas. By using music with strong low-end frequencies, the students can feel the music through vibrations. At the same time, movements are transformed into colorful visuals that let students see the music as well.

Phenomblue selected Adobe Flash technology to drive the audio and visuals for Daydreamer because it excels at rich media and rapid prototyping. The agency used these prototypes to review and refine the body movements that would be transmitted into music. Using an open source connector library, Phenomblue integrated Microsoft Kinect’s skeleton data with Adobe Flash Builder® to allow the entire body to become an audio controller, sequencing both sampled and dynamic audio. Next, the team leveraged the Stage 3D APIs in Adobe Flash Player for GPU hardware accelerated graphics to enable higher performance and richer visuals.

Phenomblue finalized the project for the Flash Player runtime using Adobe AIR® to produce a standalone application. The result can be displayed on a large screen TV or projector and blasted through a powerful sound system to create an immersive experience where the audio, visuals, and feel of the music from vibrations in the floor are all controlled by the movement of the user’s body.

"Working with familiar Adobe Flash technology was an essential part of helping us build an innovative new experience," says Ryan Phelan, director of technology at Phenomblue. "Daydreamer started out as an experiment to turn movement into sound but evolved into an opportunity to give hearing-impaired students the ability to create and experience music for the first time."

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