

Classroom education tool that is the new teacher's pet

Education has come a long way since 'chalk and talk'. Of course it still has its place but, thanks to today's technology, teachers now have a broader, more entertaining mix of techniques and media available, and new ways of interacting with students. Swivl™ takes full advantage of mobile devices to create an ingenious video teaching aid that is enhanced by the unique capabilities of DECT audio and data streaming.

"The idea for Swivl came out of seeing the power of video as a tool for learning," says Vladimir Tetelbaum, Swivl's CTO and cofounder. When people can see a replay of themselves, it helps them figure out how to do things better. The same applies if a group of people is being viewed, for example a class of students: video and audio feedback gives everyone extra insight into their performance.

Swivl™ is an imaginative video and audio capture solution that makes full use of modern technology to help people learn. Video is captured on a tablet or other mobile device mounted in a robotic base unit, while sound is picked up by remote 'markers' that can be attached to clothing, held in the hand or placed on a desk. The sound is transmitted wirelessly to the base unit which packages the audio streams together and sends them via USB to be recorded in-sync with the video on the mobile device. The audio and video can then be uploaded into the Swivl Cloud to be watched or shared later.

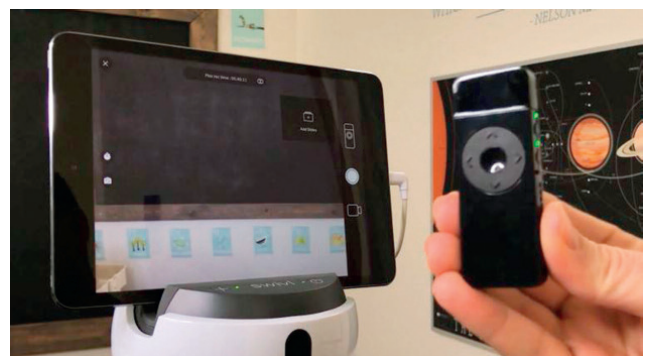
For the best possible learning experience, the robotic base unit moves the camera to capture the speaker according to data received by the markers. All this – video capture, audio capture and camera positioning – needs to happen in real time.

Teachers do it with class!

"When we began in 2011, we were looking at all kinds of learning applications. But we soon realised that education is at the forefront of using media technology to enhance learning. So we have optimized our solution to suit the needs of the classroom," adds Tetelbaum.

Since then, Swivl has built up a customer base of some 20,000 in the US, UK, Australia, Europe, Asia and the Middle East. Core uses include teachers' professional development and student aids such as lecture capture, lecture home viewing and practical exercises.

Earlier this year, Swivl launched its third generation system, the C-series, generating excitement and rapid uptake. The new system features a number of improvements in both hardware and software functionality – including support for a greater number of markers and audio streams.



Mark my words!

Audio quality is particularly important for educational settings, both clarity of voice and the ability to pinpoint who is saying what. And it is essential that audio and video remained synced. To deliver this in real-time with more audio channels, Swivl needed to upgrade their wireless connectivity solution. They chose DECT.

“The 2.4 GHz band is becoming oversaturated and that was already causing problems for some of our customers. We also wanted to help teachers reach more students in smaller groups by increasing the number of microphones. So we needed a multi-channel technology. DECT seemed the logical choice. Its low latency was also attractive for real-time use,” Tetelbaum explains.

With DECT providing a bi-directional link for both audio and data, the C-series can currently support up to 5 markers; And Swivl plans to increase this number even further. Each stream is treated independently so users can select different ones when reviewing the video in the Swivl Cloud platform, and thus focus on particular student groups.

Doing the homework

To avoid the complexity and time needed to do their own RF design and buying and learning all about using a DECT Stack, Swivl looked for a drop-in module with a stack included to implement DECT. It found the ideal match for its system in Dialog Semiconductor’s Cordless Voice Module (CVM).

“Dialog’s CVM delivered the functionality we needed in a form factor that fitted our highly compact markers. But what really impressed us was the support Dialog was prepared to offer a small company like us: answering our questions fast and introducing us to possible third-party design partners. Dialog also helped with regulatory updates. As a result, our entire product design cycle was completed in nine months,” Tetelbaum concludes.

“The C-series and DECT are the next big step for our company’s growth. And Dialog really helped us deliver it.”

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