



How do you harness technology to revolutionize learning?

Prowise MOVE is one of the first solutions to harness Intel® RealSense™ Technology to enable fun, engaging and effective lessons for all pupils whatever their learning style

At a Glance:

- Using Intel® RealSense™ technology, Prowise MOVE extends the capabilities of the Prowise Touchscreen from interactive, touch-based learning to embodied, gesture-based learning
- The Prowise PC module turns the touchscreen into a powerful front-of-room computer, allowing wireless collaboration with the Intel Unite® solution, as well as remote device management using Intel vPro® technology

Not all students learn in the same way. While some respond well to the traditional classroom set-up, many learn better through sight, sound and active whole-body participation. With this in mind, Prowise collaborated with Intel to extend the capabilities of its Prowise Touchscreen from touch- to gesture-based control with the addition of Prowise MOVE to enable innovative, embodied learning in the classroom.

Challenge

- Improve learning outcomes for all students whatever their learning style
- Transition from passive to active learning methods to engage all students, while staying within budget

Solution

- Using Intel® RealSense™ technology, Prowise MOVE transforms the Prowise Touchscreen to gesture controls, enabling embodied learning - see image 1
- The Prowise PC module allows teachers to turn their touchscreen into a computer

Results

- Embodied learning makes lessons more fun, interactive and engaging – see image 2
- Upfront, one-off investment together with free software offers an attractive total cost of ownership (TCO)

Challenge: Improving Learning Outcomes

Schools, colleges and universities have one primary goal – to improve learning outcomes for every student. Over the last 10 years digital technologies like tablets and touchscreens have been introduced in an effort to make learning more efficient and engaging, and meet a range of learning styles.

Research shows many students find it easier to learn through sight, sound or by actively doing¹. By engaging these different learning styles, teachers can dramatically improve educational outcomes for all students, as well as increasing children's confidence in their own learning abilities.



Image 1. Prowise Touchscreen with Prowise MOVE camera



Image 2. Gesture-based, embodied learning makes lessons more fun, interactive and engaging

However, for many schools, colleges and universities, implementing the shift from passive to more active learning to engage all students equally, must be balanced with tight, and in many instances, shrinking budgets. The challenge is how to expand the educational repertoire of teachers, while not breaking the bank. Here's where innovative technology solutions like Prowise Touchscreen with Prowise MOVE can help.

Prowise Touchscreen with Prowise MOVE

The Prowise Touchscreen is a combined hardware and software solution that enables a more interactive and friction-free learning experience. 4K Ultra HD panels from LG deliver optimal visuals, while in-plane switching (IPS) technology and anti-glare offer a 178-degree viewing angle providing excellent visibility for everyone. Prowise Central – an intuitive user interface – provides teachers with quick access to learning resources and allows them to navigate quickly between Prowise Presenter to create lessons and presentations, ProNote to annotate and share documents, or Prowise Reflect to project up to four student devices on the big screen. Reliable and easy-to-use, touchscreens enable teachers to make the classroom learning experience more interactive and engaging.

Prowise MOVE takes this to the next level, transforming the touchscreen from touch to gesture controls, and extending usage to embodied learning. This is made possible with Intel RealSense technology, which equips devices with the ability to see, understand, interact with, and learn from their environment. MOVE uses the Intel® RealSense™ D415 camera which offers Intel's latest depth-sensing hardware and software in an easy-to-integrate package.

Using skeletal tracking, Prowise has developed a range of educational digital tools for use with MOVE. Integrated in Prowise Central, the games are completely different from conventional educational games. Students are challenged and encouraged to participate proactively and physically

while standing in front of the screen. They are no longer passively sitting on a chair, but rather up on their feet triggering games with whole-body movements.

The MOVE camera can also be used as a normal webcam in combination with the Microsoft Skype app, pre-installed directly on the touchscreen, allowing teachers to invite external experts to deliver lessons, bring in students who are off long-term sick or teach from a distance to another classroom – see image 3. The four wide area microphones integrated in the touchscreen recognize voices up to eight meters away and, together with the 2.1 Dolby Audio certified sound bar, provide a complete conference solution.

The mechanical privacy filter designed to cover the MOVE camera guarantees that teachers and students are protected from outside threats, allowing teachers to feel secure that the camera is only filming when they want it to. Since all depth processing happens on the camera and interaction is real-time, there's also no need for it to record video of students while they're playing and learning. With its recently acquired ISO 27001 certificate, Prowise proves its ability to responsibly and safely handle data and related processes. Prowise is already in possession of the Privacy Verified certificate, and thereby complies with the strictest international privacy regulations.



Image 3. The MOVE camera can also be used as a normal webcam in combination with the Microsoft Skype app

Additionally, the Prowise PC module allows schools, colleges and universities to turn their touchscreen into a computer. Running on an Intel Core i5 processor, PC modules come with an ultra HD video card and fast solid-state drive (SSD). They can be plugged easily into the open pluggable specification (OPS) slot enabling the use of Microsoft Windows 10 directly on the touchscreen. Using the built-in Intel Unite solution, the PC module allows teachers to easily create and manage a secure content sharing and collaboration platform for their school. Teachers can wirelessly connect displays, colleagues, and mixed technology environments so that they can share and collaborate seamlessly, wherever they are.

Far-Reaching Benefits

Prowise is one of the first providers to offer an Intel RealSense depth camera that enables interactive learning without requiring that students physically touch the screen. This gesture-based approach opens up many new possibilities for teachers to make lessons even more interactive and engaging, transforming the classroom learning experience from passive to active.

Students are encouraged to work actively while learning through play with their whole bodies. This helps kinesthetic learners, who learn best through doing, to tie their muscle memory to learning. Meanwhile, crystal clear sound and bright visuals better engage students who learn best through vision and sound rather than traditional read/write education styles.

MOVE helps focus students' attention in an increasingly stimulating world constantly demanding their attention and by engaging motion in the learning experience, the students are using different parts of their brain to learn. It gives students a healthy alternative to sitting at a desk and better prepares them for the technological workplace they will join when they leave school.

Martin Bailey, director at Animate 2 Educate, said: "This is truly an innovative and engaging way to let pupils interact with the material. I know my pupils are going to love it." Meanwhile Leo, a graphic and 3D design teacher, added: "[Prowise MOVE is a] great combination of the latest technology and physical activity. The webcam feature also opens up opportunities for secondary education."

As well as providing a solution to make lessons more fun, interactive and engaging, the touchscreen with MOVE gives teachers greater flexibility. Cloud-based software enables them to access learning materials from anywhere. They can easily collaborate, edit and share materials with colleagues. By streamlining the administrative process, the touchscreen frees teachers to focus on helping students to achieve the best they can.

Finally, Intel vPro® technology, built into the PC module, provides schools, colleges and universities with the capability to remotely manage their touchscreen system. This makes it possible for IT teams to carry out inventories and deliver software upgrades and security patches no matter whether the devices are turned on or off, and even if the operating system has failed or if there is no hard drive present. This enables IT teams to carry out essential management out of school hours, ensuring downtime during the school day is kept to a minimum. It also allows IT teams to power down machines that may have been left switched on overnight or over the school holidays, helping to reduce energy consumption and associated costs. Low energy consumption and a standard five-year warranty offer an attractive TCO. Prowise Presenter and MOVE software are completely free and device independent.

Conclusion

Prowise and Intel have a long history of collaborating to make digital learning accessible to all, even those operating on a tight budget. MOVE is a unique solution in the market – the first to integrate Intel RealSense technology to create a completely different, high-quality, gesture-based learning experience to improve learning outcomes for all students, whatever their learning style.

Technical Components of Solution

- **Intel® RealSense™** technology is a suite of depth and tracking solutions designed to give machines and devices depth perceptions capabilities that enable them to 'see' and understand the world. It facilitates embodied learning by allowing teachers and students to interact through gesture with technology in the classroom
- The **Intel Unite®** solution powers easy, secure wireless screen sharing from anywhere in the classroom. Teachers can stream content and manage the exchange of information without the need to manage multiple cable connection options, so instruction time can start quickly and connect immediately to new or existing displays, projectors, and interactive flat panel (IPF) displays
- **Intel vPro® technology**, featuring Intel® Active Management Technology (Intel® AMT), enables efficient proactive and reactive maintenance of computing devices. Intel® AMT provides full OS-independent remote control of endpoints over wired or wireless connections, enabling wake and patch, system re-imaging and recovery, and more.

Spotlight on Prowise

Prowise is a leading global company that invests in innovation, quality and reliability in the field of digital learning solutions. By developing touchscreens, devices and user-friendly software, Prowise makes learning more accessible, effective and enjoyable. Currently, over 20,000 schools, 450,000 teachers and students, and hundreds of companies in over 26 countries use Prowise solutions.

Learn More

- **Prowise:**
<https://www.prowise.com/en/>
- **Intel® RealSense™ Technology:**
<https://www.intelrealsense.com>
- **Intel Unite® solution:**
<https://www.intel.com/content/www/us/en/education/transforming-education/technology-in-the-classroom.html>
- **Intel vPro® Technology:**
<https://www.intel.com/content/www/us/en/architecture-and-technology/vpro/vpro-platform-general.html>

Find the solution that is right for your organization.
Contact your Intel representative or visit www.intel.co.uk/iot



¹ <https://www.rasmussen.edu/degrees/education/blog/types-of-learning-styles/>

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