



## KINECT Four and Win!

**A fun way to explore innovative learning opportunities**

**R**emember the classic tabletop game Connect Four where you drop colored chips from the top of a seven column six row grid until you or your opponent line up four of your own color chips in a row? What I love about the game is not just the sound of chips falling into slots, but also the many ways you can win depending on how you can connect, whether vertically, horizontally, or diagonally.

That's the way I feel about video games and education these days. We have all the chips in our hands—it's only a matter of bringing them into contact. The winning combo could be the right partnerships between like-minded organizations, the creation of innovative models with funding from stakeholders, or some out-of-the-box model. The key move could be right in front of us but easily missed, slowed by our fear of making an error in the current economic and educational climate. I believe that we must be persistent and continue to make strides forward toward educating our children. Here are four reasons why Microsoft's Kinect is an affordable, viable option to help libraries and classrooms achieve innovation in education.

### Out-of-the-box thinking

The Kinect is a depth, motion, and voice sensor device that enables gesture and facial recognition and lets user's experience controller-free gaming. It is the fastest-selling consumer device in history, according to the *Guinness World Records 2011 Gamers Edition*, and a perfect way to reach large audiences. Affordable and intuitive, tech savvy teachers, librarians, and educators can use it to develop their own educational projects.

One brave new innovator is Johnny Kissko, a math teacher from Lubbock, Texas, and founder of KinectEducation (<http://www.kinecteducation.com/>), who is currently funding his project out-of-pocket. In a telephone interview, Kissko conveyed how he passionately believes gesture-based learning is the wave of the future. Paving the way for collective knowledge sharing, he launched a website for teachers, developers, and enthusiasts to trade program codes, design lesson plans, and record experiences using the Kinect for collaboration. He has coined the term "kinectify" for the

resurrection and conversion of an old game to the new format, and is holding a contest on his website for the best idea which he will implement. His website also includes a guide to help teachers program with the camera attached to a PC using code to create "keybindings" where the keyboard can be mapped to gestures such as "crouch, jump, and swipe."

When asked about the cost of getting started, he replied, "Any teacher can start a Kinect project with an approximate \$1000 budget. That would buy six Kinects at \$150 each, supporting 12 students for a single classroom." Kissko has invaluable insight into the school system, "the biggest barrier to innovative teaching is beyond teachers and beyond administrators. Satisfying the system of standards in education is the obstacle leaving little time to experiment with learning technologies which could improve education." Kissko was selected to present his ideas at the July 27, 2011 Microsoft Innovator's Forum in Seattle, WA.

### Create buy-in

Kinect's prowess for object-scanning recognition can be seen in the newly released Kinect Fun Labs—a series of tools that allow users to scan and interact with objects and even make avatars that look like themselves. It also includes a gadget called "Googly Eyes" which allows children to scan real-world objects to perform a digital puppet show. Reader's theatre just got cooler! Now that Microsoft has made Kinect's SDK (Software Development Kit) free for download, independent developers have the means to create programs linking Kinect to PCs.

Edutainment games, which have traditionally run on the PC operating system, can be converted into the Kinect format. The mechanics of games such as *Reader Rabbit*, *Clifford*, and *Jump Start World* are particularly suited to the Kinect. What if they were to be "kinectified?" It doesn't have to be restricted to fiction either. Subjects under the 700s can become truly interdisciplinary with aerial origami, kungfu kanji, and geo-knitting. Educational software giants are sure to recognize the device's power.

### Kinectifying books

In addition to "kinectifying" software titles, what about "kinectifying" books? There is no argument that the



best imagination is still the one that is generated in the mind of a child while reading. With the Kinect camera's object-scanning ability, we don't have to physically take the book out of the hands of our children—we can scan it for clarity. Another soon-to-be-released Fun Labs application, Sparkler, uses "finger-tracing," allowing kids to draw or write in the air with sparkling 3D results. Augmented books that have attempted interactivity like the *39 Clues* series, *Artemis Fowl*, and *The Search for WondLa* by asking readers to go to web-sites or use a webcam to unlock secrets have been time-consuming, involving multiple steps. With the advent of cloud streaming technology, e-books, smartphones, and gaming consoles that can talk to other devices, it's only a matter of time before all these disparate parts can be brought together seamlessly.



### Gaming and learning

According to *The Horizon Report 2011 Edition* (<http://net.educause.edu/ir/library/pdf/HR2011.pdf>), "game-based learning continues to demonstrate its effectiveness for learning for students of all ages" and "four to five years from now there may be widespread adoption of gesture-based computing and learning analytics." Indeed, it seems that formal recognition of gaming's value is finally a reality with the promotion of the American Library Association's (ALA) Games and Gaming Member Initiative to Round Table status during ALA's 2011 annual conference in New Orleans.

When asked whether the Game-On program will continue in the KCLS library system, Battisti responded: "Yes. We engage teens who otherwise would not darken the doors of our library without the program and they often return to use the library for its resources. That's what Game-On means—it's not just gaming, but beyond."

As I hear my yellow chips click together and line up to Connect Four, there is no doubt in my mind that the Kinect is only in its first iteration and promises more to come. For teachers and librarians, it's going to take initiative, innovation, and courage. In some cases it may take personal investment; but as Johnny Kissko has shown us, if well-researched, your home-grown Kinect project can become the next new national roadmap for educational reform.

*Ann Crewdson is children's section supervisor, Issaquah/Sammamish Libraries, King County Library System, WA.*

Photo courtesy by Microsoft.

### Use Kinect in Game-On programs

When Washington's King County Library System (KCLS) was named 2011 library of the year by *Library Journal*, I had to look no further than my own front yard to find a model Game-On program, led by education coordinator Jerene Battisti since 2007. What started out as a small pilot program has evolved into a successful teen program offered in 30 library branches.

When I caught up with Battisti on a rainy day in Seattle, she offered the following feedback: "The Kinect platform has engaged teens in a totally new and exciting way that other game devices cannot replicate. A typical Game-On program at a poorer neighborhood like White Center Library would draw anywhere from 50 to 80 teens. I've seen teens being collaborative, not competitive in their relationships with one another and, surprisingly, older teens actually helped younger teens by offering them a turn."

A large library system with a budget of \$25,000 could run a similar program. Battisti vets all the games, checking for those rated T for Teens and E for Everyone. Rather than emphasize its educational value, Battisti prefers to recognize Game-On for its social value in bringing teens from different walks of life together who would otherwise never meet. She has observed, however, that the interest level has shifted so that younger kids and tweens are becoming more interested in the Game-On programs.

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