

# Developers dive in to create a wealth of autism apps

May 9 2013, by Chris O'brien

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At times, Andy Shih still finds himself overwhelmed by the groundswell of interest in autism applications he's seen in the three years since Apple Inc. released the first iPad.

In his role as [senior vice president](#) for scientific affairs at Autism Speaks, a national advocacy organization based in New York, Shih helped organize a "hacking autism" event in San Francisco with co-sponsor AT&T Inc. that drew 135 developers. It was the group's third event, following previous hackathons co-sponsored with Hewlett-Packard Co. and Microsoft Corp. Over the course of 24 hours, teams built prototypes for more than a dozen apps.

When it was all done, the winning application was a review service called RevTilt that combined Yelp listings with the ability to provide specific comments and ratings about which businesses were the friendliest to autistic families. It's an example of just how rich and diversified autism apps have become, Shih said.

"For me, it's extremely gratifying to walk into a room and you have a couple of hundred developers there to support families," Shih said.

Even as researchers just begin the process of trying to determine how effective such technologies are, parents, therapists and developers are racing ahead in their attempts to tap into what they view as a powerful tool to reach people with autism.

While there also has been a surge - albeit smaller - in apps for devices running Google Inc.'s Android operating system, researchers and families credit Apple's iPad, iPod Touch and iPhone for being the catalysts. As a result, Apple's iOS platform remains far and away the most popular platform for autism families and developers of apps for people with special needs.

At the end of National Autism Awareness Month in April, a search for "autism" in Apple's App Store brought up 1,449 apps for the iPad and 1,259 for the iPhone. And Apple has even created a "Special Education" section of the App Store.

The range of these apps has expanded well beyond the initial focus of helping people with autism communicate and improve social skills to learning about emotions and delivering basic educational lessons in a format that's better suited to autistic learners, Shih said.

The creators appear to be drawn by a mix of instincts to help others and the sense that there is potentially a sizable market for these apps since, according to the Centers for Disease Control and Prevention, 1 in 50 school-age children in the U.S. have been diagnosed with some form of autism, an increase of 72 percent from five years ago.

Shih cares less about the motivation and more about the effect. To that end, Autism Speaks and others are trying to take a broader perspective on the initial and unexpected outpouring of interest in creating apps for people with autism.

In addition to holding the hackathons, Autism Speaks has created a venture and philanthropy division to provide seed funding to connect developers with other sources of private and public funding. The organization even recently held its first conference to bring developers and investors together.

Meanwhile, Autism Speaks has received a dramatic increase in funding requests for research proposals to study the effectiveness of these new technologies, Shih said. That will be challenging, given that the causes of autism are still poorly understood, and that people on the autistic spectrum can have a wide range of social, sensory and learning challenges.

Howard Shane, director of the Center for Communication Enhancement and the Autism Language Program at Children's Hospital Boston, said while he's eager to see more studies, his experience with the iPad and autistic children has been so overwhelmingly positive that he's content to push forward with finding new and better ways to use it.

Shane said his group is working on a "feature matching process" to help families determine which apps are best suited to the needs of their children.

"The clinical evidence is still emerging," Shane said. "But the excitement and interest in these technologies exists because they are working."

Bill Thompson, a school psychologist at the Orange County, Calif., Department of Education, who wrote some of the first autism apps, said he's trying to find ways to make their use more effective. Many educators and parents, for instance, like the iPad and other mobile gadgets simply because they can be used as a powerful reward to reinforce a desired behavior: Complete a task, get some iPad time.

That's understandable, considering that it often can be hard to find rewards that motivate some autistic children. But Thompson said he'd like more of the iPad time used for educational purposes, rather than just getting bonus "Angry Birds" time. For instance, Thompson has created a system in which a classroom with many kids on the autistic spectrum use iPads that can be beamed onto a large-screen TV using an

Apple TV unit to enable them to communicate with each other in ways they might not otherwise.

"The struggle becomes how to structure it," Thompson said. "Of course kids are going to like the games. The real skill becomes: How can you get teachers to embed that into the classroom setting to really promote education?"

As the number of apps has increased, so has the challenge of finding the most reliable ones. Lois Jean Brady, a San Francisco Bay Area speech pathologist and assisted technology specialist who wrote the book "Apps for Autism," said she's also focused on helping families find the most effective apps as their numbers have multiplied. It can be a challenge because some app developers are tempted to tag their apps as [autism](#)-related, even if their real use is much more general.

Brady also pointed out that in their enthusiasm for the iPad in particular, many parents and educators haven't taken the time to understand the range of its potential uses. One of the reasons Apple products are so popular with the special needs community is because they all have "accessibility" settings built in. Under the "general settings" menu, there's a "guided access" option that can keep the device locked on just one app so the user doesn't switch, say, from a social lesson to a video game app.

"Some folks just go out and get it, assuming they can hand it to a child and that's it," Brady said. "I'm surprised at the number of people who don't know about some of the accessibility features. The [iPad](#) is just the muscle to reach these kids. And a lot of people aren't taking the time to learn about how to use that muscle and how powerful it can be."

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