**Podcast Interview: Gregory Abowd**

**JM:** I’m Jenny Morber and welcome again to Science Sessions. Gregory D. Abowd is a distinguished Professor in the College of Computing at Georgia Tech where he studies the intersection between Software Engineering and Human-Computer Interaction. Specifically, Dr. Abowd is interested in ubiquitous computing, which strives to embed technology into the human environment, rather than just on a screen. Though he is also working on technologies to aid schools and the elderly, I spoke to Dr. Abowd about his work to help children with Autism Spectrum Disorder and their parents. While some researchers are working furiously to understand the underlying causes of the disorder, Dr. Abowd’s research focuses on early diagnosis and improved treatment. Dr. Abowd tells me why his interest in Autism is more than merely professional:

**GA:** I have three children, and my two older boys, who are now 13 and 11, both have autism. And when my oldest son was diagnosed around the age of two, about a year or so after that I had a chance to see movies of him, our home movies and I saw the change from when he was 18 months to when he was just over 2 years. And I saw that in the context of some technology and project that I had been working on, as a researcher at Georgia Tech, and it dawned on me that I could start to use my skills and interests as a researcher in trying to capture and record everyday experiences so that you could view them later on, I could start to apply this to challenges of autism and I went to just over the last decade or so thinking of all different ways that information technologies can support any of the stakeholders or challenges linked to autism.

**JM:** One of the techniques Abowd uses is to record infant behaviors as a child grows so that parents and physicians can spot signs of Autism early. When Gregory and his team began, video recording children with autism wasn’t new; however, their method of isolating behaviors was innovative. I wondered if this monitoring might alarm parents and cause them to resist using his technologies, and whether it might make a new parent’s job even more difficult:

**GA:** That’s a project we called Baby Steps, trying to encourage parents to capture or record records or evidence of their newborn children’s developmental progress, but we didn’t want to put any additional burden on the parents. We wanted to leverage the kinds of things that they already do. Many families have baby calendars, where they monitor with stickers or by writing on a calendar the goals that a particular child might meet, whether they’re fun goals like first time you visit grandma’s house, or whether relevant developmental goals like showing a smile or being able to sit up or walk, so we wanted to make sure that that kind of recording first of all can make it online, so we created a free web service for people to use, and make sure that it tracked the kinds of developmental milestones that pediatricians were interested in knowing about to track the developmental progress of the child. The other idea was to take the baby monitor that
many families have. Well the technology in a baby monitor can actually be augmented relatively easily to allow you to record examples of the child’s developmental progress. So if you leave a room and a child demonstrates distress, they’re upset from you leaving, that’s actually a positive sign. Being able to capture that and show that as evidence of the child’s social behavior to a knowledgeable professional would be useful to do.

JM: But are these technologies making any positive impact? How necessary are these recordings and can they actually help a child with Autism to progress?

GA: We’re already starting to see the use of fairly sophisticated technologies to push the age of confirmed diagnosis earlier and earlier. I think today in the U.S. probably around age four to four-and-a-half is the average age of the diagnosis of autism, and the American Academy of Pediatricians recommends that there be screening that leads to diagnosis by the age of two. I think the way we’re gonna be able to do that is through technologies that allow us to see behaviors, because autism is effectively diagnosed as a behavioral manifestation, and technologies can help us to see, or I like to use the word “image,” behavior in such a way that we can understand it better than with the naked eye or with our own ears. How can we use technology to allow us to see the behavior of a child—where they look, how they’re responding in particular social situations to determine when there is a typical response or a response that might lead to autism.

JM: Since the topic is so personal to Dr. Abowd, I asked him if there was anything I didn’t ask that he felt was important. Here is what he had to say:

GA: There’s public awareness campaigns about autism, and I would just caution people that many of these messages are ones of woe and despair—how difficult it is to raise children with autism, and I’ve raised two children with autism. There are some difficulties there, but there are some wonderful talents and gifts these individuals have as well. So it’s not something that we want to eliminate, it’s something we want to understand and help society work more favorably with.