Tablets for Autism
Tablet Computers Provide a Voice for the Autistic

Jason Holstein
Autism is a neurological disorder that affects more children every year. The condition often results in difficulty with social interactions and communication. Autistic individuals may demonstrate impaired language function, idiosyncratic speech, and an inability to maintain conversations. Symptoms that may point to a diagnosis of autism include: not responding to one’s name, an inability to explain what one wants, refusal or inability to follow directions, and a tendency to “tune out” other people¹. Up to half of all autistic individuals lack the communication ability to function on a typical day-to-day basis².

Current statistics indicate that approximately one in every 110 children is affected with autism, and the rate is higher for boys, at one in 70³. There are more than 1.5 million Americans presently diagnosed. Even more alarming is the rate at which the disease is becoming more prevalent. Only fifteen years ago, an estimated 1 in 500 individuals were diagnosed as autistic. Compared to today, this is a nearly 17% increase annually⁴.

There is currently no known cure for autism, but a number of treatments and therapies exist to improve the quality of life and functional abilities of those with autism. Measures to facilitate effective communication are key components of any such treatment program.

Augmentative and alternative communication (AAC) technologies provide a voice for those with disabilities or other barriers to communication. AAC includes a broad variety of “no tech” methods (or unaided communications systems,) such as sign language, and “low tech” tools (or aided communications systems) such as picture boards and books⁵. With the advent of increasingly sophisticated technology, today’s electronic AAC devices, services and software applications are proving especially effective in helping those with autism.

Electronic AAC technology includes “speech generating devices,” which utilize keyboards, picture buttons, or other input methods to translate a user’s communication intent into electronically produced speech. Such devices have traditionally ranged from hundreds to thousands of dollars in cost, an expense rarely covered by medical insurance policies. Furthermore, such devices were awkward to operate and carry. The proliferation of affordable mobile
computing has made the handheld communications assistant a viable option for almost any individual.

Today, mobile software applications (apps) are developed which effectively replicate the functionality of a dedicated AAC device. Such apps include combinations of text, pictures or symbols, and audio output to facilitate communication. The audio output is in the form of recorded speech or a synthesized (text-to-speech) voice.

Most apps include a number of “pre-made” words or phrases as well as the ability to customize by recording or programming additional words and phrases. The included content offers functionality “out of the box,” so that a user can begin utilizing the app right away. The ability to customize an app is of prime importance as it allows the user to communicate with a virtually unlimited vocabulary – for example, including proper names, frequently visited places, favorite foods, activities, and other items specific to the individual user.

Apps for AAC are available for virtually any mobile device that runs either the Apple® iOS or the Google® Android™ operating system. Due to the higher price of Apple® iPads®, the more affordable Android tablets are an optimal choice as a communications device. The apps range in price from no cost (free) to hundreds of dollars – still more affordable than a dedicated AAC hardware device. An informal survey of Android Market reveals that the average cost for such apps varies from $15 - $50. Depending on the tablet and apps used, an effective AAC solution can be configured for as little as $200 with an Android based tablet device.

### Examples of autism applications

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<th>Application</th>
<th>Platform</th>
<th>Price*</th>
<th>Source</th>
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<tbody>
<tr>
<td>TapToTalk</td>
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<td>EZ Speech</td>
<td>Apple iOS</td>
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<td>Gus Communications Devices</td>
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More apps can be found at the iAutism and Apps for AAC web sites
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AAC apps also help those with cognitive impairments, deafness/muteness, speech difficulties resulting from stroke, or any disability or condition which creates challenges communicating. Although AAC apps are among the most common apps used to assist autistic individuals, other apps exist to address a variety of issues including time management, navigation, socialization and behavior.

Maintaining a normal schedule is beneficial to parents of all children, but is particularly critical for those with autistic children. Autism can result in feelings of anxiety and confusion in the face of the unexpected. Children with autism generally thrive in structured environments with predictable schedules. Scheduling is very important for the development of autistic children, and apps are available to help with this.

Today’s tablets offer other benefits as well. As a multifunctional device, the tablet can be used to surf the web, read books, play games, and interact with online friends and communities – all activities which can aid the development of an autistic individual. The touch screen application interfaces are generally intuitive and easy to use, with a very small learning curve. The stigma of lugging around an “assistant” device is replaced with the “cool factor” of carrying a piece of highly functional and in-demand modern technology.

ViewSonic offers a complete range of tablets that support AAC apps to give a voice to those with autism.


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