



2023 RESNA Annual Conference

move to the
beAT
of innovation

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New Orleans Marriott
New Orleans, Louisiana



Makers and AT A Match Made in Heaven

How can RESNA be the meeting place?
Antoinette Verdone, MSBME, ATP, RET

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- I have been in the industry since 2000.
- Engineering background – Mechanical Engineering Undergrad and Biomedical Engineering Masters
- ATP since 2004, RET since 2021
- Voc Rehab MS, ALS Assn NYC, ImproveAbility

Disclosures

- Antoinette Verdone is the owner of ImproveAbility which is a for profit assistive technology sales and consulting company

Who is in the room?

- AT professional
- Maker
- Maker Wannabe

Get your thinking caps on!

- I am going to make my case, but I need your input!!

The Origins of Assistive Technology

- If we look back at when RESNA started - 1980 (about 40 years ago)
 - AT was mostly focused on seating and mobility.
 - Items for those with visual and hearing impairments were around.
 - Personal computers and consumer electronics were not a thing.
 - People with disabilities not well integrated into society.
 - Very little commercially available
 - Rehab Engineers, OTs, and others working in rehab did a lot of custom building

The Origins of Assistive Technology

- ADA passed in 1990 – total game changer
 - Rehab act of 1973 and IDEA started the change in attitudes and need for accommodation
 - As someone who graduated HS in 1993 and attended graduate school in 1999 – ADA was a regular topic on the local news
 - I feel like we are in a “post ADA” era
 - Some assume everything is accessible
 - Accessibility outside of physical accommodations being talked about more
 - ADAAG updated 2012

The Origins of Assistive Technology

- After 1990 and the years since then we now live in a society that (at least on paper legally) wants people with disabilities to fully participate. And, we have legislation to allow those who feel they are being discriminated against to have their day in court.

The Origins of Assistive Technology

- So, when I started practicing in 2000 – there was more and more commercially available solutions that were custom made in the past.
- Also, there were a handful of resources/manufacturers of AT. If you knew those resources you knew all available AT products on the market.

The Origins of Assistive Technology

- Fast forward 23 years, and very little custom fabrication is being done.
- But, now personal computing and consumer electronics are ubiquitous.

What does this have to do with Makers?

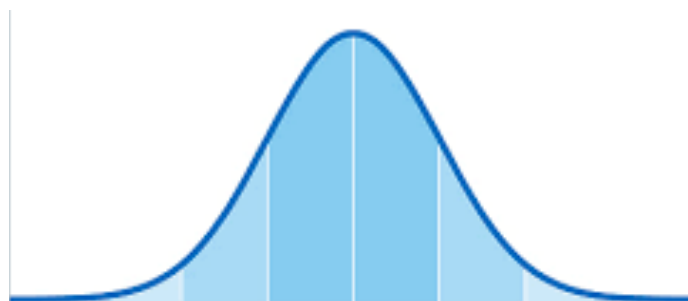
- When you look at where the AT industry has come from and the status of public accommodations, there is now a new emerging market for custom made devices.
 - Consumer electronics ubiquitous – everyone wants to use the same stuff
 - The cost of making – in hard and soft costs - has dramatically decreased
 - The maker industry has exploded and we as part of the AT industry should take advantage of this to serve our clients and industry needs.

What does this have to do with Makers?

- The places where professionals can find AT is no longer a handful of resources/manufacturers
- Kickstarter – 14 listed projects, many projects not listed
- With the app store, crowdfunding, Etsy, etc, it is impossible to know all of the currently available products.
- Facebook groups, LinkedIn groups, listserves, etc have become the place to crowdsource solutions.

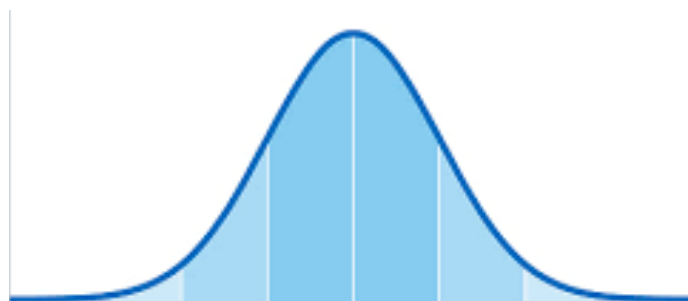
What can makers do in AT?

- All of the “easy” stuff has been figured out.
 - Ramps, wheelchairs, hearing aids, etc
 - Not saying there can be more innovation, but if you need one of these items, you have multiple options and a plethora of products to choose from.
- Commercial AT fulfils the needs of much of the AT market.



What can makers do in AT?

- Makers can fill the gap to solve problems for the ends of the curve.
 - Small market of a small market



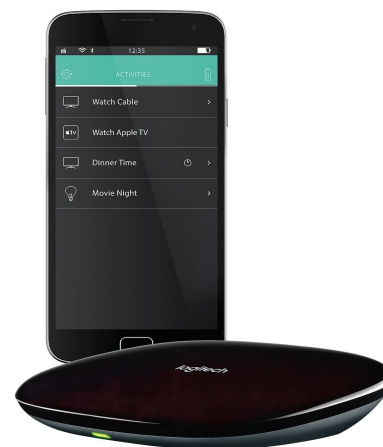
What can makers do in AT?

- Customizations to commercial equipment.



What can makers do in AT?

- Fulfilling the lost function of a discontinued product.



What can makers do in AT?

- Creating a targeted product for a very specific population or technical need.



What can makers do in AT?

- What else?

What can makers do in AT?

- Almost feels like we have gone full circle to making custom solutions for people with disabilities.

This sounds great – how do we find the Makers?

- Not an easy question to answer
- Non Profits/Facebook Groups
 - AT Makers, Makers Making Change
- Maker spaces
- Adafruit Show and Tell
- Random news stories
- By accident....

This sounds great – how do we find the Makers?

- Let me tell you two stories
- Morse Code Keyboard



This sounds great – how do we find the Makers?

- Bed Control Harmony Hub



This sounds great – how do we find the Makers?

- Do you have any examples?

This sounds great – how do we find the Makers?

- I want other AT professionals to be able to get their “weird” projects done.
- I want Makers to be part of the AT industry.
 - If we can educate Makers on the needs of people with disabilities, then that is where we can make beautiful music.
 - Morse Code example
 - Eye gaze graffiti example
- This is a totally untapped “market” for RESNA

What are the needs?

- I interviewed a wide range of professional – some makers some AT professionals – asking what they wish existed and what are the obstacles.
- I came up with two main needs
 - Resource for Makers
 - One place for AT professionals to find Makers

Resource for Makers

- After these interviews, I discovered that the thing I think is needed is for commercialization of maker projects.
 - The ability to legitimately get projects made in the way into the hands of people with disabilities.
 - There are already non-profits and other orgs that can get a one time solution out there for one person.
 - Help overcome the obstacles to getting their projects to people with disabilities.

Resource for Makers

- A place to connect with AT professionals to offer services
- But its just \$10 in parts – to put a product out there is more complicated that putting the parts together

Resource for Makers

- Side discussion
 - Multiple people on the Maker side of my interviews mentioned lowering the cost of AT for consumers.
 - There may be some situations where this is the case, but I do not see this as a large goal.
 - The purpose of this endeavor is not to put commercial AT companies out of business.

Resource for Makers

- Obstacles
 - Liability
 - Warranty
 - Tech Support
 - Regulatory Requirements
 - Manufacturing Capabilities
 - Design Capabilities
 - Access to Technology for Testing
 - What else?

Resource for Makers

- Could RESNA offer a way to help overcome these obstacles?

One place for AT professionals to find Makers

- RESNA can easily fill this need by providing a meeting place.
- RESNA may be able to provide resources and other tools that will make this kind of work a real option.

What will this mean to the AT profession?

- A path for projects to get made to meet the needs of people with disabilities.
- A place to bring in those who would never know about AT into the industry.
- Provide a source of income for Makers
 - Multiple times during my interviews Makers stated that they loved working on these projects

Call to action

- New SIG being formed
 - This is just the first step
 - This has been something that I have been wanting to tackle for a while – finally got the guts to put my ideas out there.
- To join the mailing list – please go to:
www.ImproveAbility.com/maker
- Complete the form to stay in touch.

Call to action

- The more people we can get involved the better.
- I need a group of people who can help wrangle all of these ideas into a meaningful interaction.

Call to action

- Just some ideas
 - Assistance with Liability Insurance
 - Training courses for Makers
 - Training courses for AT professionals
 - Assistance with production or design
 - Could there be an institution that would “hold” the designs to protect Makers?
 - Could there be a way to vet products as safe?
 - Certification for Makers to should knowledge of disability needs.

Call to action

- Just some ideas
 - Resource for Makers to ensure they are not “re-inventing the wheel”
 - Assistance for AT professionals to help translate their need into “maker speak”
 - What else?

Comments/Open Discussion

- Am I the only one who thinks this is something to pursue?
- Open Discussion
- Eye gaze alert system



Thank You!

Antoinette Verdone, MSBME, ATP, RET

Antoinette@ImproveAbility.com

512-497-6026 – Direct/Text

www.ImproveAbility.com/maker