

Blue and his mother try his new adapted camera for the first time.

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A customized workstation makes writing easier for local author (page 4).



Seeing the world through Blue's eyes

Twelve-year-old Blue loves poring over photographs. But because he has cerebral palsy and significant dexterity challenges, Blue always had to be satisfied admiring other peoples' photographic views of the world, never his own.

Earlier this year, Blue's passion for photography inspired his occupational therapist to contact CanAssist to find out whether we could make a camera that he would be able to use.

As it happened, CanAssist had recently developed a camera system that could be customized for a wide range of users – one that would suit Blue's needs perfectly.

At the heart of the system is a Canon digital point-and-shoot camera. To make the camera's functions controllable by a single easy-to-push button, CanAssist engineering staff programmed a tiny microprocessor that they attached to the outside of the Canon. This little computer, which allows them to communicate with the camera, was enclosed together with an external battery and the Canon itself in a shiny aluminum case, finished in red — Blue's favorite color.

(Continued on page 4.)

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What we do

At CanAssist, we believe passionately that people with disabilities should have every opportunity to participate fully in society and also that their achievements be celebrated.

As such, everything we do involves working to improve the quality of life of those with special needs and their families.

We achieve this by drawing on and bringing together the exceptional resources at UVic and those in the wider community to deliver remarkably innovative technologies, programs and services.



Nigel's notes...

One of the many pleasures of being CanAssist's director is that I often host tours given to visitors. Invariably, these visitors remark upon the amazing energy, ingenuity and enthusiasm of our staff, volunteers and students.

I am often asked why our team members are so motivated. The answer is easy. Firstly, it is always deeply satisfying if you can use your skills and experience – whether engineering, administrative or research – to help others.

Because we are a service-driven organization and we have direct and continuing contact with the clients and caregivers with whom we work, there are all sorts of opportunities to see the outcomes and benefits of our work and to share in the challenges and triumphs that accrue. Our engineering staff and technicians get the added bonus of taking on some extremely intellectually and technically demanding projects and seeing them through to the end.

The entire team is inspired by our clients, and by the dedication of their family members and caregivers. So, all in all, it would be hard to imagine anything better.

Nigel Livingston is CanAssist's Director.



Our *Just for Kicks* soccer program provides an opportunity for children with special needs to play team soccer. The free program, which entered its eleventh year this fall, runs every Sunday at 2 p.m., September through March, in UVic's McKinnon Gym.

If you would like to volunteer as a "soccer buddy" or to enrol your child, please contact Graham Duncan at 250-598-9382 or at just4kicks@canassist.ca.

Document stand provides independence during presentations

Trevor Greene's deployment to Afghanistan was a unique mission. As a part of a civilian-military initiative, his focus was to rebuild villages. Trevor embarked on his first international peacekeeping mission in 2006, while his fiancée, Debbie, and their baby daughter waited for his return.

During his tour, Trevor was attacked with an axe. He was struck in the head, the impact nearly splitting his brain in half.

Miraculously he survived, but suffered serious brain damage. Today, after four years of personal determination, immeasurable support from Debbie and intense rehabilitation, Trevor is enjoying his new career – public speaking.



Brandon and Trevor

Trevor's speeches were going well; however, he could not use a podium as it blocked audiences from seeing him. Instead, Debbie would stand beside him and hold his speaking notes.

Trevor had heard about CanAssist through his speech therapist, who knew that we had created a portable document stand for another client. However, because Trevor's height is 6'3", the stand would have to be redesigned to suit his needs.

Brandon Fry, a member of CanAssist's engineering team, redesigned the original concept.

"It was important that the portable document stand be strong enough to support its length, as well as flexible to allow adjustments," says Brandon.

The result was a flexible, multi-jointed stand. The stand attaches easily to a wheelchair and features enough surface area for two pieces of paper, clips to hold them in place, and a reading light.

"The document holder is a godsend," says Trevor. "I no longer have to hunch over, squinting at notes in my lap. I can adjust the angle of my notes to be in the perfect line of sight.

"I am so grateful the team at CanAssist was able to make the document holder in time for my latest speech. It has increased my independence and presentation skills."

Conference focuses on supporting 10- to 14-year-olds

Join CanAssist at the *Building Bridges Conference* on February 18-19, 2011. Parents, educators, social service providers and students are all invited to discuss and plan a holistic approach to supporting children in the middle years (10 to 14) who have a broad range of special needs.

You will hear engaging speakers and learn practical tools in areas such as:

- Financial planning
- Employment and volunteering
- Recreation and exercise
- Self-care
- Health and nutrition
- And much more!

To register and learn more about the conference, please visit our website: www.canassist.ca.



Proudly supported by Shaw Communications Inc.

Pairing CanAssist technologies leads to more Bob Marley

Combining two popular CanAssist technologies has enabled David Melville to independently control his iPod and enjoy his favourite reggae songs.

David has cerebral palsy and cortical visual impairment, as well as other conditions. He has very limited muscle control, is unable to speak and depends on support workers for everyday tasks.

One of his support workers wanted him to experience independence, so she contacted CanAssist in the hope of finding a way to let David express choices in his life. Because David enjoys music – particularly loud reggae – CanAssist focused its attention on providing David with a way to select his own tunes.

CanAssist had already designed an iPod adapter, called the *podWiz*. This unobtrusive adapter attaches to a standard Apple iPod and allows people to control their music by pressing a single button or switch. But because of David's inability to move his limbs, he is unable to use a standard accessibility switch.

So Sunny Mahajan, CanAssist's technical coordinator, paired the *podWiz* with another technology designed by CanAssist—the muscle-controlled electromyography (EMG) switch.

Sunny says that individuals with very limited muscle movement, such as David, are typically able to control at least some of their facial muscles. When users contract and relax their forehead or jaw muscles, they generate electrical impulses. Surface electrodes located on a headband they wear detect these signals and send the information to an attached EMG device.

"By looking up, David produces enough electrical impulses to trigger the EMG switch," Sunny explains.

"It is a slight movement, but the EMG switch is sensitive enough to receive and interpret these movements. When David triggers the EMG switch successfully, the iPod will play music."

David is now practising controlling the EMG switch. It's an important step because once mastered, the EMG switch will allow him to use other devices independently. To encourage him, the *podWiz* is on training mode, set to play music for 20 seconds after each successful eye raise.

"David is such a lovely gentleman to work with and it is so wonderful to see him able to have some control over his environment, to have something that is just his," says Ina, David's primary caretaker. "He seems very proud to show off his music to everyone."



David (left) practices controlling the EMG switch with Sunny.

Customized workstation delights author

David Norton is a former professor, an active academic and an expert on the philosopher David Hume, about whom he recently published a two-volume set for Oxford University Press. David's accomplishments are especially impressive considering he has lived with multiple sclerosis for the past 30 years.

Because of his disability, as well as the frequent pain and discomfort that result from it, David must do his writing and research in a reclined position.

Before he approached CanAssist, he was using a standard workstation that perched over his bed along with a makeshift computer stand. But the unit wasn't mobile or solid enough and couldn't be positioned close enough to his body. In addition, there was no place for office supplies, books or a beverage.

Scott Lagadyn, of CanAssist's engineering team, met with David to discuss the project in detail before developing a solution. Scott then selected a *Star Base* workstation and began customizing it to meet David's specific needs.

Scott put the workstation on large caster wheels so it could be moved easily toward and away from the bed. He also added a handle, which allows David to adjust where the keyboard tray and shelves are positioned.

An extendable book holder and wooden shelf were added, along with an upgraded lower shelf strong enough to hold heavy textbooks. In addition, a

cupholder was created for David's large easy-grip cup, which he needs in order to take his medication.

"This is the first time that I've worked on a project for an older client," says Scott. "He ended up making my job easier in the end because he knew exactly what he wanted."

David, who was once the editor of the McGill University Press, was delighted when CanAssist delivered the new unit.

"A short note to let you know that the workstation is working beautifully," David wrote recently. "To make a long story short, you recommended a well-constructed unit, and then made some smart and helpful modifications. The project was well thought out and well done. Thank you very much."



David Norton: an accomplished scholar.



Beautiful sunflowers photographed by Blue

Blue's adapted camera, continued from cover...

"The way it's designed, everything can be accomplished through software and the press of a single button at the top of the camera case – it's pretty cool," says Mike Jackman, who handled the mechanical side of the project, while his colleague Peter McGuire handled the programming and electrical requirements.

When the single button is held for five seconds, the camera turns on. The display screen at the back of the camera then scrolls through each function one at a

time. These functions include video recording, zooming in and out, reviewing photos and videos, and deleting content. Most of the functions were de-activated for Blue, who needed the simplicity of just being able to turn the camera on and take pictures.

Blue is unable to push the button on the top of the camera case. So Peter and Mike ensured that the camera could be controlled by an accessibility switch. Blue is non-verbal but communicates through an electronic speaking device by pressing his head against this same large blue button.

As soon as the camera was mounted on a flexible metal arm and connected to his accessibility switch, Blue grinned excitedly and began snapping photos.

"Finding devices and activities that keep Blue's interest is just about impossible," says Blue's mom, Dawn. "But this camera is just perfect – it looks good and it works without a hitch."



Award-winning youth group supports inclusion with paintbrushes



VOCYL members during a recent retreat.

After all their hard work, community service and commitment over the past year, members of VOCYL are thrilled to have received two awards.

Victoria Opportunities for Community Youth Leadership is the only

program of its kind in Victoria. Its goal is to share the message of inclusion and belonging, through presentations to schools and team-building events. The program is co-supported by CanAssist and Community Living Victoria.

“The VOCYL youth are so honoured to win these awards,” said Program Coordinator Tracy Gill-Lemke. “It’s such an affirmation of their amazing efforts throughout the year.”

VOCYL received both a Youth Now Award from the United Way Youth Advisory Council, and a WOW! award from Community Living British Columbia.

Members of VOCYL, who come from all backgrounds and with different abilities, take part in bi-weekly meetings to increase their leadership skills. They deliver interactive presentations to local schools and participate in community-building events.

One such event was the creation of a beautiful mural on the side of a building at 1020 Hillside Ave. in Victoria.

The mural was painted by VOCYL in partnership with another local group called Youth Combating Intolerance. With the assistance of local artist Stephanie McColl, the two groups set out to paint a piece that would reflect the values of diversity and tolerance.

More than 30 youths from the two programs worked on the project over a weekend, sharing the message of inclusion and belonging not only through their artwork, but also as they worked alongside one another.

Lori and Michael Rowe, owners of the building, generously donated the wall for use by the two programs.

Last year, VOCYL made more than 25 presentations at local high schools, middle schools and elementary schools, reaching more than 600 young people with its message of inclusion and belonging for everyone in society.

For more information about VOCYL, please visit www.canassist.ca/vocyl or contact Tracy Gill-Lemke, Program Coordinator, at tsgill@uvic.ca or call 250-477-7231 ext.41.



Coast Capital Savings contributes to TeenWork

CanAssist is grateful to have received \$10,000 from Coast Capital Savings to help fund our *TeenWork* program.

This innovative pilot project is designed to change the life path of young people with special needs by helping them find and retain part-time employment. A program coordinator works with participating teens and their families, as well as local businesses, to find each youth a part-time job. The coordinator or a job coach then works with the teens as each develops new skills and becomes comfortable in his or her job. To date, participants have worked in a variety of settings, including: Thrifty Foods, Pharmasave, Subway, Recreation Oak Bay and the Pacific Institute for Sports Excellence.

“Coast Capital Savings is well known in Victoria for giving back to the community,” said Nigel Livingston, director of CanAssist. “We’re thrilled that they have recognized our focus on supporting the community too.”



Coast Capital Savings is Canada’s second largest credit union, serving more than 400,000 customers across Metro Vancouver and Vancouver Island.



Robert, who is part of the TeenWork program, is working in the produce section at Thrifty Foods.

Valued grad student reaches his goal



CanAssist is delighted to announce that graduate student Rob Prinz has earned his Masters degree in Electrical Engineering at UVic.

Rob, one of CanAssist’s early employees, first began working with us in 2004 as a co-op student while earning his undergraduate degree. Later,

he worked as a part-time applications engineer, supporting the wireless inertial sensor package (WISP) project, while pursuing his Masters.

Rob successfully defended his thesis at the end of August. His work focused on the control of intelligent motorized orthoses, specific to the lower limbs. He worked closely with and was inspired by a client who has muscular dystrophy.

“The examining committee felt that Rob’s thesis was of a very high standard,” said CanAssist Director Nigel Livingston. “It was wonderful to see CanAssist’s reputation enhanced through Rob’s excellent work.”

Rob completed BCIT’s electrical engineering technology program in 1998. He then worked in industry for three years as an electrical engineering technologist in product development, computer monitor repair, and component-level engineering support, before joining CanAssist.

“Working at CanAssist has been a very enjoyable experience,” said Rob, who recently left CanAssist to pursue a new position. “It provided me with an opportunity to apply technology to solve real-world problems, which benefitted members of the community with special needs.”

We wish Rob every success as he embarks on the next phase of his career.

Barbara's ways to give



Donating securities is simple and tax-smart.

While a gift of cash is the most common way to give, a gift of securities – such as stocks, bonds, mutual fund units or shares – could offer you greater tax advantages.

If you are considering a donation to CanAssist and you own publicly listed securities that have appreciated in value, you may want to consider donating these directly to CanAssist, rather than cashing them in to make a donation.

Why? If you cash in these securities, you have to include 50 per cent of the capital gain (how much they have increased in value) as part of your income for the year. If you donate the securities directly to CanAssist, you do not have to include any of the capital gain in your income. You will also receive an official tax receipt for the fair market value of the securities on the date CanAssist received the gift.

Donating securities is easy. First, determine which securities you wish to transfer to CanAssist. Then, call me to assist you in providing a letter of instruction that you can take to your broker to help facilitate the process.

Contact me any time to discuss this and other giving options at 250-853-3948 or at btoller@uvic.ca.

Barbara Toller is CanAssist's Development Officer.

CanAssist supporters

We are deeply grateful to the following donors for recently providing support to CanAssist:

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Every effort has been made to ensure that the above information is correct. Please call Barbara Toller at 250-853-3948 regarding any errors or omissions.



Riley test drives our motorized tricycle.

Birthday bash focuses on learning and giving

When you make a donation to CanAssist, you make a huge difference in someone's life. In this issue, we profile Riley Larche.

Most of us probably celebrated our tenth birthdays by eating vast amounts of cake and tearing into a big pile of presents from family and friends.

A local Victoria boy spent his tenth birthday doing something quite different.

Riley Larche, who hopes to be an engineer someday, heard that CanAssist combines engineering expertise with disability issues, so he decided to organize an event.

Riley is an excellent example of how many of today's young people are making their birthdays an opportunity to give as well as receive. In keeping with the "tooniestyle" birthdays that have become increasingly popular, Riley asked each friend to bring \$10, with \$5 going to CanAssist and the rest toward a present he would choose for himself.

"I am learning about the importance of giving back to my community," he wrote in the invitation he sent to nine friends. "Thanks for helping me raise money for CanAssist and celebrating my birthday with me!"

On the big day, he and his buddies visited CanAssist and got a hands-on demonstration of many of the assistive devices we develop for people with disabilities.

The tour was a big hit. The boys enjoyed our technologies, especially those that shot balls or shone laser beams. They also took great interest in learning about the realities faced by the people with special needs for whom these devices were developed.

"Thank you for a well-planned and hospitable tour," Riley's mom, Stacey, wrote to us later. "Everyone raved about it!"

And thanks to you, Riley, for bringing your friends for a visit and for being such a terrific role model for other young people.

YES! I want to support CanAssist.

- \$50 \$100 \$200 \$500 \$1000 Other amount: \$ _____
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Please return this form and your payment to: CanAssist, University of Victoria, PO Box 1700, STN CSC, Victoria BC, V8W 2Y2.

For assistance, please contact Barbara J. Toller, CFRE, Development Officer for CanAssist, at 250-853-3948 or btoller@uvic.ca
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