MOBILE TRANSIT TECHNOLOGY

MARTY CAIVANO / Daily Camera

Jim Sullivan, left, of the University of Colorado's Coleman Institute for Cognitive Disabilities and Alexander Repenning of AgentSheets have teamed up to make a prototype device that helps disabled people use public transit.

Project a beacon for disabled

Software firm, CU's Coleman Institute collaborate to make riding buses easier

By Todd Neff
Camera Staff Writer

Robin Bolduc's 20-year-old daughter got on the right bus. But when it stopped in midroute, the young woman didn't get off and then spent hours locked in the bus as it sat at an RTD terminal.

Bolduc's daughter is developmentally disabled, one of about 20 million Americans with some form of mental disability.

"We've had our adventures in RTD," Bolduc said.

Help may be on the way.

Parents of developmentally disabled children are working with local computer scientists who want to make public transit more accessible through their Mobility Agent Project.

The project is a joint effort of the University of Colorado's Coleman Institute for Cognitive Disabilities and AgentSheets, a Boulder software firm. Their product uses a variety of off-the-shelf technologies — from personal digital assistants to Global Position System data — with the goal of making riding the bus easier.

Taking the mess out of transit

Jim Sullivan of the Coleman Institute studied bus systems in several cities and concluded what transit riders already know: Riding the bus isn't easy. Among the challenges Sullivan identified were how to make maps, schedules, signs and labels — even the concept of time itself — easier to understand.

Sullivan tapped part-time CU computer-science professor Alexander Repenning to help develop technology to cut through this complexity.

Repenning and his wife, Nadia, founded AgentSheets in 1996. In January, AgentSheets won a $100,000 grant from the National Science Foundation to create a prototype of a system to help developmentally disabled bus riders.

The prototype was unveiled last week to parents of developmentally disabled children at the Lafayette offices of the Imagine Foundation, a nonprofit organization that provides support services to people with developmental disabilities and their families in Boulder and Broomfield counties.

RTD has 27 buses in Boulder equipped with GPS transponders that transmit the bus's loca-

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Project aims to help disabled

tion every two seconds. This data is normally used by dispatchers to understand where buses are. The prototype system compares GPS data to bus-schedule information and lets users equipped with a palm-sized mobile computer track buses and travel plans.

The system alerts the passenger as the correct bus approaches a stop. Using audio and visual commands, it asks the passenger to climb aboard. At the destination, it reminds the passenger to get off.

At the same time, caregivers can remotely monitor the passenger's location on a digital map. The software also alerts caregivers to missed buses and other problems.

John Taylor, the Imagine Foundation's executive director, said the system shows promise for keeping developmentally disabled people safer and providing them with greater independence.

Help on the horizon

Parents who have seen the prototype have come up with suggestions ranging from having the handheld device hang around the neck to getting the system qualified for Medicaid reimbursement.

"I'm just waiting for this," said Niki Nichols of Broomfield, who has a 20-year-old developmentally disabled daughter. "She can't really ride public transit now."

It may be a couple of years yet. AgentSheets is applying for a two-year, $500,000 National Science Foundation grant to build a salable product.

To find out more about the Mobility Agent Project, contact Alexander Repenning at (303) 520-1773.