

Bus left you waiting in the cold? Use your cell phone to track it down

February 10 2009



Brian Ferris, a doctoral student in computer science and engineering, uses his iPhone to check the status of a late bus. Ferris created OneBusAway, a free service that lets bus riders use phones, computers or iPhones to get real-time updates on bus arrivals. Image: University of Washington

(PhysOrg.com) -- It's a question heard at countless bus stops: "Have you seen the number 48 go by?" Cold, impatient bus riders stamp their feet, check their watches, and wonder if that bus is ever going to come. But in Seattle, a cell phone and the ingenuity of two University of Washington students has come to the rescue.

Brian Ferris, a UW doctoral student in computer science, spent one too many rainy nights waiting for the bus before deciding to take action.

"I'm an avid bus rider," said Ferris. "If you ride the bus enough, you spend a lot of time waiting, because even on the best of days buses can still run late."

Over the past year Ferris and Kari Watkins, a UW doctoral student in civil and environmental engineering, have created a tool, OneBusAway, that allows King County bus-riders to use a cell phone, iPhone or computer to keep tabs on their bus. OneBusAway has processed 20,000 automated phone calls since June, and the Web site gets an average of 1,000 hits a day. People have found out about the tool on blogs, from stickers posted at a few UW campus bus stops, from a mention in a Seattle magazine and by word-of-mouth.

To use OneBusAway in Seattle, just dial 206-456-0609 from any phone.

A robotic voice answers: "Where is your bus? Let's find out."

Users can then punch in their stop number, if they know it already, or follow the prompts to look it up. A computer checks a database of current bus locations, and the voice announces how long until your bus arrives. Users can also access the system online at www.OneBusAway.org or using an iPhone.

"To people who didn't even know this data was out there, they're like, 'This is amazing.' It really changes the way they use the bus," Ferris said.

Most bus stops have a timetable of when the bus is supposed to come, and digital screens at some central hubs show projected arrivals. But most lonely bus riders waiting by the curb, scanning the horizon for any sign of a bus, have no idea how long they have to wait.

Research shows that removing uncertainty cuts frustration dramatically, says Watkins, who works on transportation issues. She and Ferris met through a transit blog and combined their expertise to create OneBusAway, though neither receives academic credit for the work.

"When people have to wait, they think that twice as much time is

passing. So if you're standing at a bus stop for five minutes, you perceive that time to be 10 minutes," Watkins said. Knowing the wait time changes the situation. "If I know ahead of time, I can grab that cup of coffee and be back out in time to catch my bus. And that kind of information makes taking public transit so much more livable."

OneBusAway is an offshoot of MyBus, an online service that Ferris calls "the great granddaddy" of bus-tracking tools. MyBus, created in mid-1990s by UW electrical engineering professor Daniel Dailey, allows people to type in a bus route and stop number to get anticipated arrival times. It combines odometer readings, which regularly get beamed back to dispatch, and route information to estimate each bus' current position. The MyBus system forms the basis for municipal bus-tracking services in Seattle and Chicago.

Ferris and Watkins set out to expand on MyBus to make a more user-friendly tool that people could access while away from their computers. So far Ferris, a self-described "transit nerd," has invested about \$70 of his own money to buy the domain name and professional voice-generating software. The phone number connects to a free service that relays phone calls over the Internet.

"I'm kind of running this on a shoestring and a prayer. I've had people offer to buy me a beer, anything they can do to help," Ferris said. "Now that it's becoming popular, a lot of people are becoming dependent on it."

Ferris programs the site in his spare time, maintains a OneBusAway blog, and scans other blogs and Twitter feeds for people experiencing problems. He's gradually adding more features. For instance, Seattle's snow storm in December left many stranded on street corners waiting for buses that never came. Over the Christmas break Ferris added a feature for canceled buses.

Anyone can write features for the open-source tool. One person wrote a patch to allow you to view two different routes on the same computer screen, so if you live close to two routes you can load one page to see which bus will come first.

"I'm definitely looking for more collaborators," Ferris said.

More features are in the works. Ferris and Watkins have built a prototype that integrates real-time tracking with the popular trip-planner feature now offered by King County Metro and Google Transit. The result is a trip planner that would adjust its recommendation depending on whether buses are running on time. Yet another prototype finds businesses that can be easily accessed in a single bus trip. That's the idea that originally inspired the name OneBusAway.

"Maybe I'd like to go out to eat, say, Chinese food, but I don't care what restaurant I can get to as long as I can get there easily on the bus," Watkins said. "The goal is to one day have a whole bunch of different programs that would make transit easier to navigate. This is something the industry needs, not just Seattle."

Eventually they envision offering a suite of bus-riding tools that any transit agency could connect to its database to encourage more people to use public transit. Someday buses may be equipped with GPS antennas that would allow even better tracking.

For Ferris, he says this project fits with his philosophy of using technology to support social causes, and it's a chance to create something that people like to use. But that's not the only reason he built the service.

"I'm a big user of OneBusAway," he said. "I like to know when my bus is going to come as much as anybody else does."

Provided by University of Washington

Citation: Bus left you waiting in the cold? Use your cell phone to track it down (2009, February 10) retrieved 9 April 2024 from <https://phys.org/news/2009-02-bus-left-cold-cell-track.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.