

Mobile Technologies for People with a disability

David N Wallace - 30 August 2005

Technologies:

Windows PPC Phone Edition
Microsoft Voice Command
Bluetooth

Issues:

Why doesn't my PDA support auto-answer to BT headset?
Why doesn't voice dialling work from my BT headset?

I only recently got a PDA even though for a long time I had been needing something to organise my schedule, take notes and organise my contacts and could go with me between work, my home office and off-site. The technology not being available was never the problem, the issues were how I could access and use it. Now I have a PDA I can generally access, there's more issues that prevent me using it effectively.

I have Quadriplegia resulting from a motor vehicle accident 24 years ago and had retrained myself from being a motor mechanic to computer and network engineer. I am employed full-time by the Disability Information and Resource Centre SA as Information Technology Coordinator where as part of my employment I have been teleworking for the past 12 years, working 2 days per week from home.

Due to my disability I've always used technology as a life-tool. I looked to my latest piece of technology, a PDA/Mobile phone/Camera*, as another tool. The convergence of phone and PDA was the feature that I needed as I cannot handle more than one device. The PDA is hung around my neck on a lanyard and I have a Bluetooth headset^*. The PDA I can use with my knuckles on the buttons and can also get the PDA up onto my hands where I can use the stylus held in my mouth to tap the screen. Overall it works pretty well. I can now take notes in meetings and schedule appointments that get synchronised with my with PCs either at work or home (though synchronisation with 2 PCs is problematic, but another issue).

On the mobile phone side of the device I have installed Microsoft Voice Command software. I liked this way of accessing the numbers in my contact list better than having to record a voice tag for everyone in the list. Getting the Voice Command software in Australia was a bit of an issue with the software not being available to the Australian market. I downloaded and trialled the software and instantly saw that it could be a huge benefit to someone in my situation. Not being able to buy the software in Australia, I

purchased a full copy from someone on ebay and installed it. I had quite a bit of success with it and learnt how to say 'mobil' instead of 'mobile', which it seemed to like more. Soon after I saw there was a UK version released and read some users' first impressions of trials. It seemed this UK version worked better with our 'Ozzy' accent so figured I could upgrade. Didn't turn out so easy. I managed to get it through help of my local MVP and generally find it a little more accustomed to my pronunciations than the North American version. VC has great potential for users who have a disability.

So all this is looking pretty good, except when we introduce a Bluetooth headset. The headset works, it's the way it works with the PDA I have issues with. When a call comes in the call answers on whatever device the button is pressed – press the button on the PDA and it gets answered there. To answer an incoming call on the BT headset I somehow needed to hit a tiny button on the tiny headset hanging on my ear with a hand that I couldn't feel. I ended up with a modified piece of plastic held on with rubber bands and sticky tape. This gave me a larger area to hit. Now all this could be avoided if the auto-answer setting on the PDA was smart enough to hand the call to the BT headset. From what I can gather, currently the auto-answer only answers to a physically connected wired ear piece that's inserted in the headphone jack on the device. I tested my BT headset on a friend's BT enabled mobile phone (Nokia) that was set to auto-answer to BT headset and when a call came in to that phone the BT headset picked the call up without lifting a finger. Now that's what I call hands-free! Why isn't the Windows PPC Phone Ed. software on my PDA that smart?



Switching the attention to Voice Command. VC is a brilliant piece of software whose functionality is let down by the same issue effecting my ability to answer calls so-called 'hands-free'. For VC to operate effectively it needs a clear sound. I cannot operate it in the car, period – unless the car is stopped, radio off and everyone silent. Then, by pressing the assigned VC button and holding the PDA on my hand so as to get the mic hole pointed in the direction of my face, I can get VC to work. With a wired mic/earpiece arrangement the VC software seems to be ok too. But wires are my enemy being disabled and BT has the potential to make my life easier, if the pieces would just come together. If the BT stack on the PDA could be made to take commands from the BT headset and pass them to VC, then we'd be talking.

As I said in the beginning of this article, convergence of devices is what is driving the ability of technology to be a life-aid for me as I carve out my life and living with a disability. Connectivity of these devices seems to be the weak area. Convergence of connectivity (and particularly of the wireless kind) seems to me to be the next step needed to make mobile technology truly worthwhile, not just for people with disabilities but especially so.

- * O2 XDA Mini running Microsoft Windows 2003 PPC Phone Edition
- ^ Sony Ericsson HBH-300 Akono™ Bluetooth Headset