

## Don't look now, it's the phone with an audio 'display'

DESPITE the wealth of life-organising features built into today's cellphones, most of them are impossible to use when they are needed most – during a call. Arranging a meeting, for instance, usually means interrupting your conversation to take the phone away from your ear so you can use the keypad to navigate to the calendar. The same goes when you are trying to save an address or phone number.

But it needn't be that way, says Patrick Baudisch, an engineer at Microsoft's research lab in Redmond, Washington. All one needs to do, he says, is place the keypad on the back of the phone, on the opposite side to the speaker and microphone. That would allow users to press the keys while holding the phone to their ear.

But how will you know which buttons to press if you can't see them? Easy, Baudisch insists: the phone gives you subtle audio prompts that tell you which menus you are accessing.



Oh, to be an octopus

Microsoft has built a prototype phone, and calls the auditory menu-navigation technology "BlindSight". The notion is a little out of the ordinary, Baudisch concedes, but he notes that once upon a time very few people thought predictive texting would catch on.

"Users control BlindSight using the keypad," he says. "But instead of showing output on the screen, it responds with auditory feedback, in short bursts heard only by the user." For example, pressing "3" takes the user to their calendar, and they hear the word "calendar". Once there, pressing the "5" key provides a 3-second preview of that day's planned activities. Each busy slot is

represented by a "tick" sound and a free slot by a "beep". A busy morning followed by a quiet afternoon ("tick, tick, tick, beep, beep") is easy to distinguish from a fully booked day ("tick, tick, tick, tick, tick"). A quick touch of the

### "It would be good to move away from screens in mobile devices altogether"

"0" key, and the user can reserve a slot for a meeting as they continue to talk.

"Of course there are other ways around this problem; Bluetooth headsets let you use the screen and talk," says Baudisch. "But I think it would be good to

move away from screens in mobile devices altogether."

Although screens are useful, because a quick glance reveals a lot of information, Baudisch says that we have overlooked a key element. "Outside, there's stuff happening around you all the time. It's a shame to miss what's going on around you because you are looking at a mobile device." So it makes sense to use hearing to interact with mobile devices, he says, a notion that would also encourage the development of better gadgets for visually impaired people.

Roope Takala at the Nokia Research Center in Espoo, Finland, points out that sound-based menu navigation would also help when your eyes are otherwise engaged. "GPS navigation devices already use audio to give you directions," he says. "When people are multitasking, bringing in an audio channel separate from the visual channel can make things easier to handle."

Stephen Brewster at the University of Glasgow in the UK welcomes the innovation, but wonders how easy it would be to master. "Trying to do two things at once is mentally demanding," he says. "I think you'd probably stop talking while you do this navigation."

Baudisch will demonstrate BlindSight at this year's Computer-Human Interaction conference in Florence, Italy, in April. **Colin Barras** ●

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