# FROM STONE TABLETS TO SMART TABLETS

## TABLETS FINALLY OFFER UTILITY WORKERS TRUE DATA MOBILITY. BUT THEY'RE NOT WITHOUT PROBLEMS FOR GIS USERS. WE-DO-IT'S ANDY LUND EXPLAINS HOW A NEW, OS- AND GIS-AGNOSTIC APP OVERCOMES THOSE DIFFICULTIES

As long as they've existed, utilities have faced a 'here and there' problem. All their customers and most of their assets are out 'there', while most of the information needed to run the business is 'here'. 'Here' is typically an office, a filing cabinet, a storage box or a server. For the business to run smoothly, all kinds of information must get from 'here' to 'there'.

Fortunately, by the time organised utilities came to be, stone tablets had long since been replaced by paper, making it the easy choice. As the paper tiger outgrew its cage, microfilm and microfiche came into play. Large volumes of big paper could be stored in very little space. Then came the computer revolution, and with it (eventually) CAD and GIS.

The 'here and there' problem remained, while the solution evolved. Instead of lugging around heavy maps books, field workers lugged around heavy computers. I fondly remember – with a fair degree of amusement – the portable 'lunchbox' DOS machines a certain large telco used to lug their .dgn files around in the late 80s and early 90s: no Windows, no mouse and the thing sounded like a Harrier jump jet taking off. They were more like 'suitcase' computers, but lunchbox had a nicer ring, especially for field personnel. Some even called them laptops, but good luck fitting one on your lap – without injury, at least.

Eventually, PCs got faster, smaller and cheaper, and actual laptops became a viable method for getting information into the field. Laptops had their shortcomings, though. Besides the obvious, the clamshell design was geared for use in an office: set it on the desk and open it up. There are no desks in the field and your lap vanishes when you stand up. Sometimes the bonnet of a truck isn't available. While 'ruggedising' made them more suitable for use in the field, the clamshell design remained.

### Enter the tablet

Seemingly the bastard child of a laptop and a smartphone, the tablet is more portable, more tactile thanks to its touchscreen, easier to connect (do you remember having to add a wireless card to your laptop?) and cheaper than full-blown PCs. Given advances in mobile computing power – specifically, the operating systems designed for these devices – tablets are just as powerful as conventional desktop or laptop PCs.

This new front in the OS war has turned things around, with Microsoft's Windows 8 trailing Google's Android, which is chasing Apple's iOS. This means software developers have to either pick one (at their own risk) or code for all of them.

Utilities are now looking at tablets as a means to get GIS (and associated non-geospatial content) out into the field. The choices can get a bit complicated, with companies having to choose between different tablets, operating systems and applications. Typically, each choice will affect the others: the choice of tablet will affect the choice of operating system which will affect which apps will be available; pick a particular operating system and that will affect the choice of tablet; and so on.

### The agnostic app

LatLonGO removes this choice 'domino effect'. Recently developed by we-do-IT, LatLonGO is an application for distributing GIS information to tablets. Unlike many other mobile GIS apps, it is mobile-OS agnostic, running on iPads, and Android and Windows 8 tablets. It also supports any GIS format, so you can choose whatever tablet or operating system you want and still be able to deploy mobile GIS to your field workers with LatLonGO.

Running on any server (local or cloud) either online or offline, LatLonGO was especially designed with field personnel in mind: it provides simple, easy-to-use access to organisations' GIS data, even where no communications network exists, and it operates seamlessly between online and offline modes.

It has a simplified, universal interface to reduce training needs and make it more intuitive. Taking a 'lowest common denominator' approach to ensure instant familiarity for most users, it has the same feel as mobile mapping providers, offering swipe-panning, double-tap/pinch zooming, layer selection, and 'tap object for more info'. There are also just a few menu icons, including basic mark-up (redlining), measurement tools and layer control.

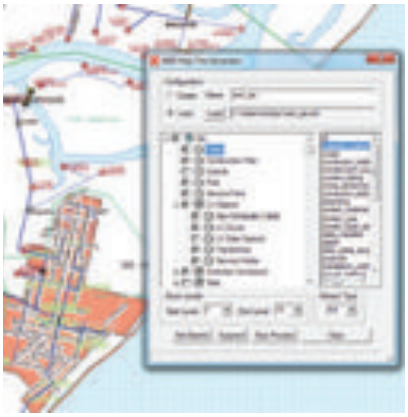
Users can choose from several landbase sources: Google, Bing, Mapquest, OpenStreetMaps or whatever they already have. A tap on an asset reveals its attributes. For a power company, those assets may be poles, switches, conductors, transformers, customer connections, and so on; for water, it's mains, valves, manholes, hydrants and laterals; telcos and cable have too many to list. Suffice it to say, each utility's assets have their own attribute-sets, which LatLonGO includes, no matter the utility type. Attribute data is used for indexing as well, so users can search by whatever criteria they desire using the simple 'word wheel' search box.

### The demon of storage

Interestingly, a potential demon that has been almost completely eliminated in the PC world has reared its ugly head up again in the tablet world: storage. Current tablet storage is 'limited' to 128GB on iPads, although Android tablets can use SD cards to expand their capabilities. But few tablets will have as much storage as a PC and the cost of greater storage is much more for a tablet.

Now, we all know GIS data can be pretty big, so to overcome this problem, LatLonGO uses multiple compression techniques to minimise mobile device storage requirements. It also uses compressed incremental updates. So there is no practical limitation to carrying even the largest utility GIS datasets into the field.

Initially, a fanciful recreational toy for wired yuppies, the tablet is gaining ground in the business world. We have only scratched the surface of tablet-use in utilities. Just don't scratch the screen getting from here to there.



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