Graduating From Kindergarten- Intelligence

(November 2003)

This brief piece takes forward some of the ideas outlined in last month's Newsletter. I propose to examine what we might call device Intelligence. I will examine this under three broad headings, connectivity/synchronicity, personality and interface. Whilst examined individually it is the holistic development of these headings that will lead to technologies having humanly recognisable intelligence.

The 'holy grail' appears to be device inter-connectivity; differing devices being able to talk to one another, the PDA to the PC, mobile to television and so on. However what really matters is how seamlessly this can take place, does this connectivity take place in 'background' mode, or is it, whilst available, cumbersome to operate and requiring significant human intervention. The ease by which such connectivity can occur is one measure of device/system intelligence. The near future will see individual devices being able to intelligently move between data channel types, for instance recent mobile services optimising links between cellular networks and WiFi. However the big step will be seamless connectivity combined with synchronicity. For instance, my small carry round mobile phone automatically uploads its data to my inbuilt mobile office centre upon entering my car, seamlessly changes use from one to the other and as I leave, the car updates my carry round mobile. In addition my mobile office may automatically draw together several data sources valuable to me and order the data so it can be sent ahead or uploaded to my carry round. Likewise my carry round will in turn update facilities in my home or static office. The key here is that these connections are synchronous and intelligent following pre-set 'personalities'. An important re-conception in this scenario is the move from single all function devices towards complex networks or clusters of devices intelligently managed. 'Convergence' is seen as information or data convergence rather than device convergence. If this holds good there will exist ever increasing opportunities to develop device specific functions rather than the current cross platform trend towards 'me too' functionality and content.

Device personality will become a key element of intelligence. However what is meant here is not some set of 'vanilla' features or the kinds of 'personalisation' applied to screen savers, ringtones, favourite setting etc. This is a much deeper notion of personalisation, such that the network or cluster of devices has a specific and unique personality relative to its, the clusters, owner or individual operator. A very primitive early example of this can be seen on a standalone basis in PVRS (Personal Video Recorders), such as Sky+ or TIVO. One could say that by programming such devices to record and select, making choices into the future etc you are 'endowing' the device with some element of your own, the users, personality. The distinction between this and what has come to be called 'personalisation' is that here personality is 'living', expressed through processes and actions. Our research 'Me My Mobile and I' (2003) clearly demonstrated that in the mobile arena this active notion of personalisation represented a significant opportunity for both handset device manufacturers and service providers, little progress has been made (we will be revisiting this in the 2004 update of Me My Mobile and I). The future may see devices seamlessly accessing, consolidating and presenting data in a synchronous and complex manner that to a

significant extent is an expression of the individual's personality and behaviour. However it is important to remember that personality also entails restrictions, limiting access, privileging; we are very good at choosing what not to be influenced by or to allow access to. Given the already unmanageable quantity of channels and access opportunities it is likely that we will turn to our intelligent device clusters to manage these for us; again PVRs can be seen as a very early and primitive example. An obvious problem lies in setting up individual devices, the future may well see 'master' devices to manage and perform such functions, a form of resident digital personality.

The manner in which we communicate or interface and the responsiveness of this does to a significant extent determine our perception of intelligence. It is not just what is said but how it is said! Currently much interface design is mechanistic and simplistic, for obvious reasons concentrating on ease of use, usability. This in part represents a mentality of product rather than relationship. In future the physical elements of devices will need to convey, if we follow my other two points, and demonstrate complex interactions and content. Whilst some of this will remain text based much will not. The full range of sensory capabilities will need to be available, touch, and even potentially smell in addition to sight and sound. Already much work has taken place to build semiotic search engines. We forget that even today, whilst such a life is impoverished, it is possible to live without text. Most individuals educated over the last twenty years have learnt to read involving a significant element of visual or pictorial representation. The visual image is still seen as stronger, more believable than words! Our emotional responses even to what would be termed 'hard data' are complex and involve many of our senses acting simultaneously. As devices become more intelligent part of this will be represented through multi sensory interfaces. However just as with human behaviour, understanding the context and setting for different kinds of sensory response will become significant. A primitive example can be found in some functions of mobile phones such as vibrate and voice activation. These can be taken further, why have an on/off button, the devices could become live through a particular kind of touch (possibly linked to identification), incoming calls may cause different touch/colour sensations. Voice activation and instruction response is likely to become increasingly important (in car hands free legislation from this December may help this). What will become increasingly significant will be the move towards composite interface experiences; an early example in a slightly different context is MMS. Here to make the experience 'live' on a human-to-human basis we combine image with text and sound; the interface to our intelligent 'cluster' will almost certainly follow and supersede these first steps.

This picture presents a very brief but more sophisticated notion of intelligence operating on several levels. Importantly intelligence is seen as active with device intelligence (or cluster intelligence) being seen as an extension of the individual and being significantly relationship based. Closely allied to intelligence is the physical presence of devices, channels and content.