



Reflections: Glass & Mobile Learning

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ABSTRACT

Project Glass is a research and development program by Google, which may provide educators and learners with new possibilities for hands-free first-person perspective media capture and augmented networked learning experiences. This paper provides a reflective account of mLearning research projects and resultant praxis conducted in the Asia Pacific region over the last decade that have involved the use of cell phone and location enabled body-worn technology, preceding and informing what is likely to be a game changer in the heady politic of contemporary educative arrangement.

Keywords

wearable, computer, mlearning, education, point-of-view, body-worn-video, location-enabled, cyborg, augmentation, networked-learning, first-person-perspective, Mann, bearable, sousveillance, surveillance, data, google, MOOC

INTRODUCTION

Mobile applications that connect users with high-speed networked services are now almost entirely ubiquitous when less than a decade ago mobile broadband and seamless mobile services seemed relegated to science fiction.

The plethora of mobile device types now available has had a profound impact on how we communicate with others, our transactions with financial institutions and the manner in which we can engage with services on the move. Our cell phones are no longer hand held dumb terminals limited in functionality, rather ambient sentinels constantly connected to a fleet of services that persuade us to consume and apply in an everyday context. This connectivity now transcends the boundaries that we once set for screen-time for our children, abandoned amidst the swamp of social networks they often frequent.

The 'Internet of Things' (Kranenburg, 2008) that intelligently connects our environment with our mobile devices and serves data on demand has enabled us to set-and-forget much of which we once undertook with a conscious division of daily labour.

The onset of body-worn technologies that enables hands free interaction with others within a connected network learning and mobile enabled ecology are poised to influence the way we interact with each other and in turn how we engage, retain and motivate learners in an educational context.

Access

A mind numbing array of functionalities are now possible through our mobile technologies that match our user identity with a corresponding access privilege. Our willingness to reveal our whereabouts or to surrender our personal profiles in API hand-throughs (authentication protocols) from service to service in a seamless and dazzling variety of ways is marketeer's dreams come true.

Screen size is no longer a boundary or pre-condition for many applications to function, or are we confined to accuracy of interaction with our mobile devices using a stylus in monkey mode. The constancy of connectivity and the plethora of device types that we use to access these services heighten our awareness of how dependent we have become upon networked connectivity to function in our post-modern daily life.

Amidst the buzz of ‘flipped classrooms’ the rapid development in mobile technology service provision and supporting infrastructures has correspondingly brought about greater possibilities for educators actively engaging learners in mobile learning (mLearning) activities as part of the greater curriculum.

Connectivism

Stable networked connectivity and consumer access to smart technologies is an affordance that educational organisations and institutions now harness as a diversity of delivery points and new market opportunities by virtue of networked connectivity.

Today there are over 5.9 billion mobile phone subscriptions worldwide, and for every one person who accesses the internet from a computer two do so from a mobile device. (UNESCO, 2012)

The bygone edict of ‘turn your mobile phones off’ signage in classrooms now looks decidedly defunct amidst QR code activity cards and rows of networked computers. As (Attwell, 2010) attests our cell phones have become integral to our identity and as such have become an extension of that identity commensurate in the main due to their ubiquity.

mLearning correspondingly has shifted markedly from a fanciful creative concept of a few lead innovators to a recognised, embedded and mainstream practice of many educators facilitating learning experiences in an educational context using a dazzling array of device and connectivity types. It is also abundantly clear that the place for learning is no longer relegated to solely a defined time and location equation as educators set about ensuring learners have access to content and support wherever they may be located.

Networked connectivity has also enabled MOOCs (Massive Open Online Courses) to flourish and so we have entered a decidedly post-constructivist era of connective knowledge (Downes, 2012). The elephant in the room is undeniably the technology that the learner now bears and wears as these initiatives move quickly into the MobiMOOC arena (MobiMOOC2012, 2012) and the result of these global interactions are reshaping pedagogy accordingly.

Educative Arrangement

Upon reflection, as lead Facilitator in 2004 of an outreach program for learners through a community based service in Midland Western Australia, it struck me at the time that all of my students were avid users of mobile phone services in stark contrast to their general living conditions. Intriguingly many of the students had chronic health issues, lack of suitable accommodation, and other life based challenges yet they still managed to maintain a pre-paid cell phone plan and in some cases owned several cell phones.

It became apparent very early in the program that there was a correlation between absenteeism and in-class communication with these hand held technologies so I set about designing an ‘always on’ curriculum, permitting learners to preference their personal hand held connectivity in exchange for limited and identifiable learning outcome communications as their teacher. The complexities of this shift in curriculum were not purely of a techno-social affordance rather as part of a suite of curriculum design changes to accommodate a challenging learner cohort.

To permission synchronous communication connection in the learning setting meant negotiating a continuous collaborative adaptive etiquette with learners who had previously only encountered didactic rules that prevented such in-class connected behaviour. Within a curriculum design context it also provided an opportunity to re-negotiate competency based assessment activities and better

address the needs of learners as they experienced life-based challenges outside of the primary learning setting.

Subsequently absenteeism dropped, learning activities successfully incorporated mobile enabled communication and many students reported a far more flexible mode of delivery that better met their life challenges. I was still subject to the expectations of management to meet curriculum milestones and outputs as well as moderation and peer review hence, in reflection, I also consider that my adoption of this mLearning methodological approach to be that of an implicit change management activity where I lead by example.

National Vocational Elearning Strategy (formerly AFLF)

My participation in the Australian Flexible Learning Framework (AFLF) 'TxtMe' research project (Bateman, 2004) further substantiated claims by (Herrington, 2009) that even simple communication such as text messaging harnessed as a means by which to engage, retain and motivate learners must remain limited and cognisant of the privacy of the individual, contextualised within sound design principles for mobile learning.

Travel to rural and remote Australian communities as a member of the 'Mobdeadly' and 'Digital Outback' (Australia, 2005) project teams also provided evidence that rich media data gathering by students as part of learning activities employing the use of these networked mobile devices challenged vocational organisations ICT policies as to the disaggregation of user content, cultural observations that prohibited certain activities and the sensitivities surrounding occupational health and safety to name but a few.

Pedagogy and policy that is inclusive of networked and mobile learning since these foundational research projects has matured considerably, as have mobile enabled services brought about fundamental changes in the manner with which educators can engage with learners in activities that involve the use of mobile learning in a supported global community of practice.

Learner Whereabouts

The challenge remains however for educators to better understand how to inform individuals and organisations alike of how to manage the onslaught and future impacts of feeding our daily digital activities to often unknown data monitoring facilities.

Evidence of this onslaught is no more apparent than in our acceptance of user conditions of technologies that require revealing our physical location (location based services or LBS) in order to provide us with information that would have once remained trapped in analogue (Michael, 2011).

A nostalgic example that elucidates how we now take LBS services for granted is as simple as contemplating what services we access through our mobile devices and to what extent we could function for any given length of time in our jobs or daily life without them altogether.

The very same transposition could be applied to the many devices both static and mobile that we employ everyday as part of our work or other activities that are supported and owned by the institution or organisation we work for that rely on GPS and GIS functionality.

We have also as a result of this expectancy of connection become avid and often brand loyal consumers, accustomed to trading our user identity for access to free services such as email, social networks and entertainment, co-joined through what is now undeniably a wearable computer (Mann, 2012).

Likewise, user identity is now as important to the consortiums that manufacture and equip these technologies as profits margins are to their shareholders. In essence, mobile based services and the technologies that connect to that service are now 'closer' to the user than ever providing service providers with valuable user behaviour data in return.

It is evident that a valuable opportunity for educators who critically engage with learners using an mLearning pedagogy includes informing learners and educators alike of self management strategies in the face of the trajectory and function creep of emergent technology.

Google Glass

Point-of-view (PoV) or body worn video (BWV) prototypes have been trialled extensively in a cross-sector education and training context across Australia and New Zealand since early 2005. A national snapshot conducted in 2010 (Hayes, 2010) revealed an avid interest in how location enabled body worn technologies could be used in an educational context.

Google Glass is now set to be as much a game-changer as SMS messaging was via first generation cell phones was to a legion of mobile consumers a decade ago.

We think technology should work for you—to be there when you need it and get out of your way when you don't. We started Project Glass to build this kind of technology, one that helps you explore and share your world, putting you back in the moment. (Unknown, 2012)

The Google Glass device is a head worn technology that essentially connects the wearer to their network, records video and still imagery, displays information in a smartphone format while acting on voice commands ensuring a hands free connection as they go about their daily chores and duties.

The release of prototypes of this innovation by Google has been compared with the EyeTap device developed by Professor Steve Mann as early as 1981. Mann is also credited with coining the term 'sousveillance' to describe the act of recording that these body worn devices enable from the first-person perspective.

By its very nature, wearable computing evokes a visceral response, and will likely fundamentally change the way in which people live and interact. In the future, devices that capture our lifelong memories, and share them in real-time, will be commonplace and worn continuously, and perhaps even permanently implanted. (Mann, 2012)

Hands free, Internet connected, networked and aug-mediated (Mann, 2012) body worn technologies are now poised to flood the consumer market as fashionable must-have service oriented accessories. This emergent technology is likely to have a considerable impact upon learning and teaching as it repositions a hand-held user network to that of a wearer network.

CONCLUSION

The creative potential for location enabled body-worn technologies in the educational context is seemingly limitless yet, as with any new technological innovation, the benefits are as rich as the risks are great.

Organisations and educators alike will now have to pause and consider the personal security; privacy and identity challenges that are inherent with this location enabled body-worn technology that will again surface in the educational setting.

Once dismissed as a trans-humanist pipe dream these head worn technologies that connect the wearer to a string of internet enabled services are likely to provide substantial change management and mLearning pedagogical challenges for those engaging learners in an educational context.

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