B.A. O'MULLANE, R.B. KNAPP, R. BOND. Review of user interface devices for ambient assisted living smart homes for older people. Gerontechnology 2010;9(2):319;
doi:10.4017/gt.2010.09.02.199.00 **Purpose** Smart homes generally focus on issues to do with security, health, energy savings and entertainment, issues which grow in importance as we age. The sensors, actuators and entertainment devices required to build such a system add significantly to its complexity. Hence, the Man-Machine Interface (MMI) to the smart home systems is often acknowledged to be the most sensitive area for acceptance. Smart homes can allow the user to modify the house via a unified control, additionally; assisted living smart homes gather information about the subject's health, information that can be used to feedback to the user to modify their behaviour via the device. Increasingly, these interface devices present information from the internet, such as weather and news. With the internet fast becoming the first source of information for many services, such as shopping, or care worker access, these devices may additionally help bridge the digital divide between the young and old[2], if the principles of universal design are addressed[3,4]. The purpose of this study is to examine user interfaces devices that can perform these tasks and analyse them with regard to the particular requirements of the older user. Four different interface paradigms are compared and contrasted to meet the requirements: (i) The non-smart home, information from newspapers, care worker direct contact, regular house controls. (ii) Television with remote. (iii) Software running on a standard computer. (iv) Touch screen panels & smart mobile phones. **Method** A four-stage experiment is being undertaken to investigate the options. Presented here a paper review. Stage two is an ongoing, age friendly, community survey in the northeast of Ireland (n=1000) subjects aged 50+. Phase three trials the system with a home in lab and the final stage is a 12 month in-home trial in 16 purpose-built ambient assisted living smart homes starting February 2010. **Results & Discussion** Low tech is familiar, but cannot provide quick feedback for instructions, additionally, understanding all device control interfaces can be cumbersome to the user. Desktop computers have a requirement for at least an interest[3] and a minimum level of computer experience[5], which would provide a barrier for large-scale adoption. Television interfaces and touch screen devices both provide solutions to the system requirements[4]. Each have different usage patterns, television users tend to be seated and are prepared to spend longer absorbing information, but require the user to activate the television before interacting and also be stationary in front of the TV[6]. The touch panels can be 'always-on' which means they can be used for more ubiquitous interaction and for novice users touch screens can work better than a controller[7]. Both devices will be taken through stage three and four for further analysis. Results to date, from phase two of the age friendly county survey, indicate that the majority of the subjects have a positive attitude towards 'technology' (internet, etc.) but they have a limited understanding of what it is capable. A smaller number suggested that technology 'worried' them, but what worried them is more complex technology interaction such as email.

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