

E.T. Khoo, A.D. Cheok. *Mediating intergenerational communication through mixed reality game and culture computing*. *Gerontechnology* 2009;8(2):115; doi: 10.4017/gt.2009.08.02.009.00 The research focuses on employing interactive technology to mediate intergenerational communication, in particular, between grandparents and grandchildren. We aim to create interactive systems that reduce age salience while increasing proximity of communication. Age Invaders and Confucius Computer reduce age salience and promote closer intergenerational interactions. Age Invaders minimises the effect of physiological differences between the young and old people by balancing the game pace and the dexterity of the players. **Technical description** Age Invaders<sup>1-3</sup> is an intergenerational family entertainment game that is designed for grandparents, parents and grandchildren to play simultaneously. The grandparents and grandchildren play the game physically at home, where their body movements are tracked and translated onto an online virtual world. The parents join in the game playing remotely through the Internet. Age Invaders features a novel floor gaming platform with embedded RFID tags and high resolution LED display. The players wear RFID reader shoes that communicate with the game server through Bluetooth. Figure 1 shows users having fun playing Age Invaders Game. Confucius Computer<sup>4,5</sup> uses new media to revive and model ancient philosophies and teachings, presenting them in new contexts, such as online social chat, music and food. This enables the young people to experience and explore ancient culture using the literacy of digital interactivity. We have created three systems, namely Confucius Chat, Confucius Music-Painting and Confucius Food. The applications are exported into java applets that can be executed on normal computers. In Age Invaders system, we introduced bias game challenges to the young and old players in order to maintain a competitive and engaging game play. On the other hand, Confucius Computer employs an innovative storytelling model for the older users to facilitate children in learning about ancient philosophies and culture through the use of modern everyday computer applications thus promoting psychological proximity. **User studies** We have carried out a series of user studies, with children age 10 to 12 years old and adults age 60 to 80 years old. All users agreed that the game is fun and enjoyable and the interface is intuitive to use. Age Invaders increases the physical proximity among the family members by creating an opportunity for grandparents, parents and children to play physically simultaneously. Strong traditional Confucian norms, such as filial piety and elders' contribution to family harmony, have resulted in youths having more positive images of old age, closer psychological proximity and thus more respectful communication with older adults in the East. We are currently studying the effectiveness of Confucius Computer, which fuses ancient philosophies and culture into new media, in increasing the psychological proximity between grandparents and grandchildren.

## References

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Figure 1. Users having fun with Age Invaders game