Purpose   Intergenerational play is highly phatic and does not specifically aim to exchange facts or information, but act to strengthen the social bonds[4]. The shared activity is an opportunity for older and younger participants spend time together and build rapport. This paper explores the design of novel interactive physical and cultural play systems that take advantage of opportunities for fun and leisure, as a mean to facilitate intergenerational communication.   **Method**   Following Fallman's "Design-oriented Research"[1], the research prototype is a vital part of the research process. In this research, the development of the two different play systems were means to test and uncover underlying design principles that would be useful in designing play systems meant for intergenerational use. With this in mind, we must also take into account that our field of research is not focused on the human alone, but also the role of the machine in mediating communication. Previous entertainment systems address the differences between elderly and children by designing different roles for them. This research explores the potential for symmetrical interaction between elderly and children by putting them on a level playing field.   **Results & Discussion**   An interactive floor platform is designed to transform the living room into a gaming space, where grandparents and grandchildren can engage in physical play, while parents can join in the game remotely through the Internet[2]. The need to balance difficulty between the users is further explored using the Tap Tap Hearts game. The results show that players who engaged with a play system that adopts dynamic balancing have a more positive game experience, compared to engaging with a play system that does not require balancing. A cultural play system is designed to allow grandparents, parents, and children to share and learn Asian cultural elements through fun interactions with a virtual Confucius. There are three emerging themes from this intergenerational play research: Play provides an opportunity for intergenerational communication; intergenerational users prefer to engage in social play; and user experience is enhanced when the system matches the ability of the user. The results from both physical and cultural play studies suggest that intergenerational communication is sustained by the fun afforded by such play systems. Verbal language, paralanguage, and kinesics communication occur frequently between the intergenerational users when they are engaged in a social play using the systems.

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Figure 1. Age Invaders Physical Play

Figure 2. Confucius Computer Cultural Play