X. Ren, V. Visser, Y. Lu, R. Brankaert, S. Offermans, H. Nagtzaam. ***HealSit: Encourage active sitting behaviour through an interactive seat cushion.*** *Gerontechnology 2016;15(suppl):23s*; doi:10.4017/gt.2016.15.s.815.00 **Purpose** As identified by Schutzer et al.[1], the deterioration of health plays a major role among the barriers to prevent seniors from doing exercise. Adversely, inadequate physical activity negatively affects their health and in turn leads to more sedentary lifestyles. Evidence has suggested that providing moderate physical exercises in repeated session are beneficial in aiding sedentary behaviours. For example, the frequent changes of sitting postures from one to another can help to decrease the health risk from excessive sedentary time[2], which is applicable for elderly people with deficient mobility. In this paper, we approach this opportunity through a formative study of the novel design of HealSit. Our prototype aims at providing active sitting experiences for elderly people to prevent sedentary lifestyles. **Method** We explored design opportunities based on the Research through Design approach[3]. Three iterations were carried out, consisting technology design, interaction design, and user experience design. **Results & Discussion** In the 1st iteration, we designed a portable system, a Force Resistor Sensor-based pad that can be placed on every normal seat, to track and archive sitting behaviours by applying Artificial Neuron Network. In the 2nd iteration, we came up with the concept f utilizing interactive music to provide a more engaging and adherent exercise. We aimed to let the elderly influence the volume of the music by changing their postures and doing sitting exercises. Based on Forlizzi and Battarbee[4], we extended the user experience into three modes in the 3rd iteration, including lifestyle mode, exercise mode, and co-exercise mode. For future work, we plan to conduct a control study with three groups of participants to evaluate: (i) if the interactive music improves the exercise experience, (ii) if the co-exercise experience has the intended effect to motivate active behaviour. In the long run, we aim to conduct a long-term study to verify to what extent HealSit can be used to support active ageing

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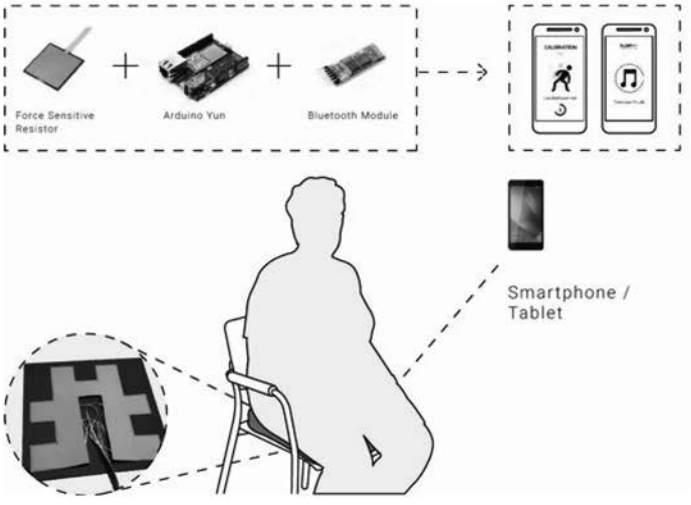

Figure 1. An impression of ShuttleKickers, the interactive physical object and the platform that keeps track of progress