Purpose
Homes often do not meet older residents’ requirements when aging-in-place. Among well known residents’ needs are those from Maslows’ hierarchy of needs, goals known from the Gerontechnology Impact Matrix, and the need for usability and ease of use known from Technology Acceptance Model. However, there are many other needs. The aim of this research is to structure common needs in a program of requirements for aging-in-place.

Method
We collected needs, motives, goals, and requirements for aging-in-place from the program of requirements of the ‘Comfort, Safety, and Low Vision’ demonstration home as an example. We structured all needs, motives, goals, and requirements into a number of categories based on their purposes, and placed these in hierarchical order. Results & Discussion
This resulted in a hierarchy of requirements: (i) user-needs and required activities, (ii) required technology, and (iii) required interface and/or ergonomics. The user-needs of these were derived from Maslows’ hierarchy of needs, such as a need for friendship. The required technology was defined by combining users and activities, for example: a person who wants to contact friends can require a telephone. Three types of technology can be required: (i) technology directly assisting activities (e.g. a wheelchair helps you move), (ii) technology accommodating activities (e.g. a roof keeps you dry, but it is never actively used), and (iii) technology influencing the motivation to perform activities. The required interface is defined by the combination of user and technology, for example: a partially sighted person will demand bigger digits on the telephone keypad. Structuring the residents’ requirements in these hierarchies will enable architects to design homes that better facilitate aging-in-place.

References
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Figure 1. Three hierarchies of needs