

# Food Services Supporting Activity and Independence Among the Elderly: *Senior Chef & Cooking Academy*

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Experiences of food play a fundamental role in the life of people as they age, as they are a set of activities at once functional, emotive and affective. From continuing to cook independently, to hosting family and friends, to maintaining healthy cooking and eating habits, to changing eating habits after the loss of a partner – food and eating processes signal and example fundamental aspects of health and wellbeing. It is crucial to empower elderly people to stay engaged in food related activities as these are central to independent household management, personal dignity, and a rich social life. Two initial concepts developed through design research for food related services which address these issues, “Senior Chef” and “Cooking Academy”, are described herein. Video scenarios and experience prototyping were used at interim stages of design development to communicate “Senior Chef” and “Cooking Academy” to a group of elderly respondents and engage them in co-creation and feedback sessions. The paper concludes through the presentation of the outcomes of these sessions which are to inform the next steps of the implementation of the service concepts through the project.

*Kitchen, food, elderly, service design, ambient assisted living, experience prototyping, user centred design*

## 1. INTRODUCTION

During the initial phases of the FOOD project, part of the European Ambient Assisted Living Joint Programme (AAL JP), partners from a pan-European research consortium were involved in people-centered design research and development in order to ideate service concepts for new kitchen technologies and environments to support the autonomy and independence of elderly people living in their own homes. Fieldwork was conducted with elderly people in Italy, the Netherlands and Romania and led to concept development within the consortium of partners and subsequent co-creation sessions with the elderly participants. The outcome of this initial stage of the project was two service concepts based on the notion of a internet enabled kitchen as a facilitator and catalyst for the reinforcement of social behaviours, inclusion and active participation of the elderly in their communities, thereby increasing their independence from the more institutional support systems for the elderly.

This initial concept development phase and co-creation processes explored the potential for a people-centered design methodology to expand an industrial development process with insights into the emotive, qualitative aspects of a technology's use context.

## 2. METHODOLOGY

The research team adopted a people-centered design process (Halse, 2008) in order to facilitate the concept generation and to evaluate collect feedback on the new service concepts during co-creation sessions in an early stage of development. In particular, fieldwork was conducted at the beginning of the project to learn about users and their contexts (social and material) and to derive insights that could inspire ideas for new products and services, while co-creation sessions were organised after the concept generation to gather feedback from users to drive the concepts forward.

### 2.1 Concept Generation

In 2012, the FOOD research team conducted field research in Italy, the Netherlands and Romania. 15 elderly persons were studied (8 couples and 7 living alone) using observation, shadowing techniques, interviews and cultural probes (Kvale, 1996; Gaver et al., 1999).

The interviews were directed at learning about the elderly people in their own homes, and an in-situ investigation of their support networks. After the fieldwork the interviews were summarised through multimedia documentation, including videos edited by the researchers attending the fieldwork, and disseminated among the consortium partners with the aim of giving a more engaged storytelling and

'felt' experience of the lives and habits of the elderly fieldwork subjects. Besides the multimedia documentation, the research team also transferred to the partners a map of actionable insights and a map of opportunity areas. In particular, the opportunity areas frame situations and constraints of design challenges to seed brainstorming processes and help envision meaningful socio-technical scenarios for the elderly.

The following is a list of the 5 opportunities discovered and mapped out:

- (i) Enabling proactive behaviour against ageing watersheds (life events causing or triggering behavioural or physiological change).
- (ii) Keeping the elderly involved in their context and homes as active solution creators.
- (iii) Freedom for the elderly to find and improvise their own custom solutions.
- (iv) Food as a touch point for elderly people and their social lives.
- (v) Support networks, mostly proximal (i.e.: neighbours), as social scaffolding.

The research partners gathered and a brainstorming session was held on the opportunity areas. The generated ideas were voted by the participants in order to produce a list of the most promising ones, which were further developed by the design-lead partners. The two services described in this paper, "Senior Chef" and "Cooking Academy" are the result of this concept development process and each has been presented for a small group of the initial fieldwork respondents in Italy in co-creation sessions.

### *2.2 Co-creation*

The developed service concepts, "Senior Chef" and "Cooking Academy", was presented at co-creation sessions in order to gather feedback from the elderly participants and further iterate the concepts (Halse et al., 2010). Specific co-creation processes were designed for the two services, in order to address specific issues for each of them.

The "Senior Chef" co-creation focused on supporting community building and developing trusting relationships with known-by-sight neighbours who were meeting for the first time on the digital platform of the service. The co-creation session was held in Rome and attended by 4 participants. It started with the screening of the video scenario of the service followed by design games (Brandt et al., 2004), in the shape of paper props, to prompt the reactions of the participants. In particular, the participants were asked to fill out a paper prototype of their potential support community with the names of people who might participate in it. Then they were shown paper ID

cards and cover letters for new community members who wished to join to the community.

The "Cooking Academy" was co-created in 2 separate sessions. One happened on the same meeting of "Senior Chef" co-creation and was attended by the same 4 participants. The other was conducted some weeks earlier in Rome and involved a fifth elderly person. The focus of the one participant co-creation was to prototype the experience of the service as if it was already set up and contextually to record an experience prototyping video (Buchenau & Suri, 2000) to be shown during the second co-creation session to the bigger group of elderly people. In the following co-creation session, the four participants watched the experience prototyping videos and were given a printed picture scenario of the service to prompt a discussion.

## **3. CONCEPTS**

### *3.1 "Senior Chef" Service*

"Senior Chef" is a social network for neighbourhoods, aimed to create occasions to collaborate with local seniors in planning and shopping for their meals and to eat together. "Senior Chef" is built on the social connections that people living in the same neighbourhood establish over time, due to the physical proximity. Most elderly respondents interviewed highlighted that they were able to identify their neighbourhood groups by sight, but had knowledge of individuals to different levels of depth. The fieldwork carried out also indicated that as long as local communities are not providing systems or occasions for the socialization of elderly people in their neighbourhood group, such encounters and social bonds are not likely to occur. "Senior Chef" provides the platform for the emergence of a support community for the elderly around food activities.

First of all, the "Senior Chef" concept supports seniors in getting inspiration and planning the meals of the week through a digital browser-based application (running, for example, on a tablet). Within the "Senior Chef" network of that specific neighbourhood, seniors can share their shopping lists, so that neighbours will be notified of the shopping requests coming from seniors when they happen to be in shops or markets where they could possibly buy these goods for their neighbourhood seniors. The "Senior Chef" platform also prompts seniors to invite neighbours for a meal together, in their homes. People belonging to the "Senior Chef" network of that specific neighbourhood are prompted about open invitations scheduled in their neighbourhood by accessing a "Senior Chef" webpage from their account or they can also decide to discover open invitations on the spot by

receiving notification on their mobile phone, while passing by a house where an open invitation has been set.

### 3.2 “Cooking Academy” Service

“Cooking Academy” is a peer to peer cooking-tutoring network run by elderly people to share their recipes and instruct others how to prepare favoured foods. The audience that “Cooking Academy” attempts to address is various:

- (i) Non-national and foreign care-givers with backgrounds in groups different from an elderly being cared for. These care-givers often do not know how to prepare traditional foods for less-able elderly people with tastes and expectations rooted in their home nation. This dynamic revealed itself as a source of friction and complaint by many elderly.
- (ii) Elderly people, who, perhaps through the loss of a partner, have little experience in the kitchen.
- (iii) Care-center and nursing home staff, charged with preparing meals for elderly people. Knowledge of favoured or traditional recipes serving to increase connections and participation between the external communities and the elderly living inside the home and to decrease feelings of alienation with the institutional-care environment.

“Cooking Academy” works as follows: The tutors of “Cooking Academy” perform a recipe in their kitchen, where pictures are automatically taken by the “Cooking Academy” technologies embedded in relevant kitchen appliances and equipment. Later the service’s tutors review the images on the tablet, select the ones that are most useful to explain the steps of the recipe and record spoken instructions for the images chosen. After sharing the recipe online, others can access it via computer, tablet or mobile.

## 4. CO-CREATION

### 4.1 “Senior Chef” Co-creation

The co-creation session started screening the video scenario (The video can be viewed at [www.vimeo.com/42846186](http://www.vimeo.com/42846186)), to which many respondents quickly reacted that there would be a shortage of “good” neighbours who might want to help with shopping activities as described. The researcher then asked the respondents to focus on their own support network and showed them the paper prototype to fill in. A participant of the group took the chance to fill the little paper characters with the names of the shop keepers and a close neighbour who use to help him with the grocery and household management (Figure 1).

While he was explaining his own support network through the paper prototype, the group reframed the point in this way:

“One is either lucky enough to know people already from whom to ask for favours and collaborate, or would need to get introduced to other people in the neighbourhood, willing to help and join the service of “Senior Chef”. But then, how to trust people you may have seen just from the window or that you just know by sight?”



**Figure 1:** “Senior Chef” network built by an elderly person using the paper prototype.

This was a good chance to discuss with participants a main issue with the service concept “Senior Chef.” One way that security and trust issues could be handled is via the adoption of an Identity Card and profiling approach to the “Senior Chef” non-elderly membership. By way of exemplifying such a process, to gauge response, elderly respondents at the co-creation session were presented with a set of IDs and cover letters of 3 unknown persons, interested to join “Senior Chef”: two young adults and a woman at retirement age.



**Figure 2:** Participants opening and reading the “Senior Chef” applications from new potential members.

These three profiles were real individuals, who had “Senior Chef” explained to them some days before, and agreed to participate. The information presented through such profiles would serve to help develop trust in the new members of “Senior Chef” (Figure 2). The elderly all agreed that receiving written information from new members would never be enough, and that they would need to “meet” them in some way before participation in

the service could take place. This would be better if organized and managed in a familiar place for them and by a “committee” or community group they already trusted, like in the day care spaces and social workers they already interact with.

In conclusion, the elderly respondents said that they would love to host “Senior Chef” helpers for a meal, but also to be hosted back. Most respondents saw “Senior Chef” as an opportunity to make new social ties in their immediate neighbourhood.

#### *4.2 “Cooking Academy” Co-creation*

The first co-creation session for “Cooking Academy” was done with an elderly lady who decided to perform a typical Roman recipe, “tomatoes with rice”, with the aim that foreign caregivers could learn the recipe. For the experience prototyping purpose the “Cooking Academy” technology was replaced by a field researcher taking numerous pictures of the steps of the recipes. The elderly lady in the role of the “tutor” made clear the importance of the selection of ingredients for a good outcome of the recipe. The “tutor” reported that she enjoyed the afternoon spent in performing the recipe, and she was meticulous of not forgetting any steps. In the moment of reviewing the pictures taken by the researcher (approximately 70 in number), the elderly “tutor” was comfortable in selecting the most useful images, and recording the spoken instructions for each picture.

During the second co-creation sessions, the participants were shown the experience prototyping video (The video can be viewed online at [www.vimeo.com/42848631](http://www.vimeo.com/42848631)) and a picture scenario. The respondents all reported that this service could be useful for foreign caregivers, but also that the elderly people that have never cooked would not be likely to start just by browsing and watching recipes on “Cooking Academy”. On the other hand, while commenting on “Cooking Academy”, one respondent, started to discuss his own way to cook that particular recipe, and all the other respondents reacted, saying that his advice would make him an excellent tutor for the service.

### **5. REFLECTIONS AND FUTURE WORK**

In this project, the researchers used a variety of tools for setting up the co-creation session, from a video scenario and an experience prototyping video to a paper prototype. Designing and producing the right tools to be used with respondents is an important phase in the co-design process because the tools enactment during the co-creation aims to suspend the judgment of the users and let them imagine possible scenarios for a future they would be willing to inhabit. However, in the whole

performance of a co-creation session, not only the design of each single tool influences the involvement of the users and the success of the session, but also how the tools are interwoven in order to overcome the moments the session gets stuck with new questions or suggestions.

This is what happened, for example, in “Senior Chef” co-creation session, when an immediate negative reaction to the video scenario was challenged by the paper prototype on which respondents have been asked to project their actual community relationships. Suddenly, a change in mind happened and what seemed far away from the respondents’ mental model became reasonably feasible, on condition that security issues, such as the introduction of new members in the network, would have been solved.

The co-creation session were fruitful: the elderly respondents were successfully brought to imagine future scenarios, they were pointing out new issues and also suggesting solutions by discussing among the group of respondents and researchers.

To conclude, co-creations sessions were fundamental to discover and unfold critical aspects of the service concepts from the perspective of the elderly. The next steps of the FOOD project would be to include these learnings to the service to be implemented and to run pilots with the elderly in The Netherlands, Romania and Italy.

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