

### **1. slide**

The study is made in cooperation between Bexcom and Development Centre UMT and the data has been collected during visits in the five participating countries in this innovation camp.

The study gives an insight into the everyday use of the kitchen. What functions the kitchen has, how it is used, and what difficulties might occur with age in regard to using the kitchen.

On this innovation camp you are designing kitchens for the future senior population. But who are the seniors and what are their special needs and concerns? Based on this case study I will try to show you some examples that illustrate both the diversity of this group but also how they have some similar needs and wishes for their kitchens.

User studies can help us integrate the users' needs in the design process, and by including these insights early in the process, we can hopefully avoid too many adjustments later on in the testing of the prototypes and the final designing of the kitchens.

### **2. silde**

For the next 30 minutes I will present firstly our 8 cases and how we have collected the data. Secondly, I will show you the key insights from the study which I have divided in three different themes: kitchen living, changing needs and easy access. Finally I bring some examples of the creativity of the interviewed when they themselves find solutions to problems in their kitchen.

Some of the examples I will show you might seem obvious – we are all familiar with kitchens, we use them everyday ourselves without reflecting on how we use the kitchen. But hopefully these empiric examples and pictures will create basis for reflections when you are designing the future kitchens during this week.

### **3. slide**

The data has been collected through ethnographic methods. That is observations and interviews in the homes of the informants. In each case we have made a 30 minutes interview on how the

interviewed use their kitchen and how the kitchen could be redesigned in order to meet the needs of the interviewed.

Afterwards, we have made observations of the use of the kitchen: how do they prepare a meal, do the dishes and get rid of trash. Through these observations it became obvious that the difficulties seniors have have not always been taken into account in the design of the kitchens.

#### **4. slide**

We have visited 8 homes and interviewed 8 men and women in the age of 71-94 + made a group interview in a modern care centre.

Many of the interviewed were living alone, and all had their own kitchen.

A case study this size can off course only point at some tendencies and it's too little a study to make a comparison of specific cultural differences. But the study can give us some indications of what we need to take into consideration when designing for seniors.

#### **5. slide**

I have divided the findings into three themes. I call the first theme 'kitchen living'. It refers to the kitchen as not only a work station for cooking but also as a room where you're eating, doing crosswords, listening to the radio and living in general.

Of all the homes we visited only one didn't have a dining table in the kitchen. Some had only a small table as you see here in one of the pictures, but many of the interviewed had actually a quite big dining table in the kitchen. While some were eating all meals in the kitchen others had a dining room too where they sometimes had dinner – especially when they had visitors.

Kitchens are no longer only a place for cooking but also a room for living and the kitchen is often part of or partly integrated in the dining or living room.

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Another part of 'kitchen living' is naturally aesthetics. Whenever we asked the seniors about aesthetics they hesitated and said something about how they liked a light kitchen and nothing more.

But taking a look around in their kitchens could tell us something about how displaying of beautiful and personal things was important in the kitchen.

On these pictures you can see how the delicate china is placed in cupboards with glass doors and how pots with spices are visible in the open shelves.

These observations are crucial for at least two reasons:

- 1) Firstly, many of the seniors had a display cabinet for their delicate china while the daily cups were in closed cupboards. The kitchen contains a whole life of inherited china and silverware that is collected over time. It is a part of a family history and it is something you use when you have guests. How all this porcelain and silverware should be stored probably needs to be taken into consideration when designing the kitchens.
- 2) Secondly, eating is obviously not only about putting food in your mouth but eating is also normally a social activity. Many of the seniors live alone and maybe appreciate being surrounded by pretty things to make the dinner a nice experience. Many seniors are eating very little and I think it's an important finding that the kitchen needs to be a room where you feel at home and where you enjoy your dinner.

## **7. slide**

– spices

## **8. slide**

Yet another part of 'kitchen living' is the use of media in the kitchen. We saw radios in many kitchens and some had the radio on all day long. A couple of the informants also told us how they used their computer in the kitchen – sometimes in search for recipes but also just for general use of the computer. And of course we will see even more computers and ipads in the kitchens in the near

future. We use the computer when we listen to music, we find new recipes on the net, and we chat with friends and relatives on the computer while we're in the kitchen. So how do we integrate this technology in the kitchen or make room for technology to be used in the kitchen?

### **9. slide**

The second theme is about changing needs, and how seniors have quite different needs according to their age and functional ability. All the interviewed were cooking meals themselves, and all were expecting to continue cooking many years ahead. However, there was a big difference in how they were cooking – if they used semi-manufactured food or not – and this of course influenced how long time they spend on the cooking.

We met for example this couple in Latvia: Valda and Roland who are 72 and 80 years old. Valda cooks meals three times a day - using normally 40 minutes on dinner – and she loves to cook delicious meals, to bake and make cookies and to spend time in the kitchen. Her husband never cooks, so she's the only one using the kitchen. On the left picture we see her making pancakes.

In Finland we met Assi, who is 94 years old. She lives in a flat that is a part of a care centre. She cooks three times a day as well: in the morning she makes oatmeal porridge as we see on this picture, but for lunch and dinner she's heating ready-cooked meals in the microwave. Assi used to make everything from the bottom herself but she doesn't have the energy to cook in the same manner any longer and her microwave is therefore very central in her kitchen.

As you see, Valda and Assi have very different needs and these examples show how important it is to bear in mind that needs change over time and with age and that the kitchen should be able to meet these changing needs.

### **10. slide**

Another thing that you should consider when designing for seniors is that they are quite different when it comes to disabilities. Most of the interviewed did not have any severe disabilities. Valda here for example is quite active actually. She has some problems with her right hand but overall she doesn't have any disabilities and no troubles with working in the kitchen.

Yet some of the interviewed did have some difficulties. Assi here uses a rollator when she walks around her apartment. She has troubles with her back and legs and need the rollator for support. But there is too little space in the kitchen for the rollator, so she leaves it in the doorway.

John uses a wheelchair. We met John in Sweden. He is 88 years old and uses the wheelchair because he has a weak heart and water in his lungs. John has great trouble with getting around in his kitchen in the wheelchair, so he has invented some practical ways to come around. I will get back to how Assi and John, despite of the bad conditions in their kitchens, manage to use their kitchens anyways.

Again, the point here is that the seniors have quite different needs dependent on their physical capability. While some are active others need different devises to get around. However, common for all of them is that they have problems with reaching things above the head and below the knees due to back problems and muscle stiffness.

## **11. slide**

Because without any exception the problem with reaching things in the top cupboards was mentioned by the interviewed. Reaching things above the head was difficult for many and when it came to reaching things on the top shelves it was almost impossible for most. Many were therefore storing things in the top cupboards that they rarely used.

Assi cannot reach the glasses in the top cupboard. Not only is the cupboard too high but the kitchen table is also too deep which makes it even more difficult to get to the higher shelves. For seniors in wheelchairs reaching things in the top cupboards are simply not possible.

Some of the interviewed used a step ladder or a small stool to be able to reach things in the top cupboards but they were not sure that they would continue to be able to climb up the stool in a couple of years. So making sure that everything is easy to access is actually also about preventing fall accidents from ladders and stools.

## **12. slide**

While researching for this project, I found an interesting study from an occupational therapist, Tina Helle, who has studied accessibility in senior homes. She states, among other things, that standards for kitchens for seniors need to be revised in order to meet the seniors' needs. The cupboards and the kitchen table may not be too deep and the top cupboards not too high.

These were exactly the same observations we did. So clearly, there's a paradox in the need for storage room and how the space in the kitchen can not be fully used.

## **13. slide**

Not only the placement of the cupboards but also the placement of white goods is central. Especially the placement of the oven is important. On the left you see how the oven is placed too high while the woman on the right picture explains how the oven is placed too low. Both women explained that because the things you have in the oven is always heavy and very hot, it is essential that the oven is placed so you don't feel afraid of not being able to hold the warm dishes or baking plates from the oven.

According to the two women here, the oven should be placed between hip and chest level – as if it was placed on top of the kitchen table. So if this is not already a standard, you should consider where to place the oven also in order to prevent accidents.

## **14. slide**

The storage of heavy pots and pans is also an issue I think should be reconsidered. From the observations we saw many different forms of keeping the pots and pans as you see on the pictures. One had them hanging on the wall and was very satisfied with them being accessible right next to the stove. One had the pans in the oven because of lack of space – which was not optimally. And one had the pots and pans in this corner cupboard. She was not very happy with this arrangement because she had to sit down to reach the pots and pans and because she found it difficult to see what she had and where everything was on the drawers.

### **15. slide**

Drawers...

### **16. slide**

...However, another thing that is standard but actually not appropriate is handle free doors as you see here on the newly designed kitchen to the left. Valda is happy with her kitchen, but maybe in a couple of years she'd wish the doors were easier to grab. Many seniors have problems with fine motor control and rheumatism in their fingers and hands, so being able to easily grab and open the cupboards and drawers is essential.

The bottom photo to the right is from John's kitchen. He always has the drawer open or else he will not be able to open it with this little key as the handle. So even though it might look good with no or small handles it might not be the right solution for kitchens for seniors.

### **17. slide**

After showing you all these pictures of problematic things in the kitchen, I will show you how the interviewed themselves found solutions to make the everyday in the kitchen work. Hopefully, the creativity of the seniors can function as inspiration in your designing process. Some of the solutions are very simple and only a small helping hand in the kitchen while others are necessary in order to use and get around in the kitchen.

The first example here is from John's kitchen. John sits in his wheel chair and drag himself round the kitchen using these ropes he has tied around the drawers. There is not room enough for him to turn the wheelchair around so this is the easiest way for him to get around.

### **18. slide**

John also kept the things he used the most in a way so it was always easy to access. He kept for example his forks and knives in this small carton box at the kitchen table... so again: think accessibility...

### **19.slide**

The next example from Assis kitchen is not developed by Assi herself. But it's a quite good solution with this bar, when Assi needs to let go of her rollator in the kitchen. While working in the kitchen Assi was leaning on the bar and used it for support. This is an excellent supplement to the rollator and definitely something to be inspired by.

### **20. slide**

Ehs here has some small but fine inventions in her kitchen. We met Ehs, who is 75 years old, in Denmark. She was married to an architect who designed and constructed these inventions. To the left Ehs keeps her cutting boards on the wall by means of these slideways on the wall. And to the right you see how dishcloths and cookbooks have their own rack. Many had their dishcloths hanging the most strange places...

### **21. slide**

I'm finishing this presentation with some general observations. I'll start with these dish drainers or racks which we saw in almost every kitchen beside the Danish kitchen and which are used for putting the plates to dry after doing the dishes. While we in Denmark often see these racks on the kitchen table having a cupboard for the racks is normal in many European countries. So this observation is maybe primarily for the Danish students.

### **22. slide**

And the microwaves... All but one home we visited had a microwave. Mostly they were just placed at the kitchen table and were therefore taking up unnecessary room. However, in today's kitchens the microwaves are often included in the design – but then my message will be again: be aware where you're placing the oven, because as with the regular oven: don't place it too high.

### **23. slide**

I bring the last pictures here to illustrate that the kitchen often also function as a utility room where things for cleaning is stored – especially in the small flats – so think about how to make room for this.



And then there is medicine. Many of the interviewed had their medicine in a box at the kitchen table. To keep it visible is obviously about remembering to take the medicine – but maybe there could be a better solution than these plastic boxes... or at least it should be taken into consideration that many things often take up space at the kitchen table.

#### **24. slide**

The summarized conclusions or maybe the summarized challenge for you must be how to design a kitchen that can change along with the changing needs of its owner. How to incorporate this flexibility that ensures that the kitchen can be used within a period of time where the seniors experience a physical decline? It might not be the case when you're 65 but the majority of 90 year olds use some kind of assistive device or technology that they are also dependent on in their kitchen. And how to design a kitchen that doesn't look like something from a hospital or a storage room for assistive devices? Because the kitchen still needs to be a place where you feel at home and where you can enjoy your meal.

I have written this last bullet about service design because we came to think about, while working with this project, that some of the challenges with the need for flexibility maybe could be met by service design thinking. How about making a concept including the service that a consultant or designer will rearrange your kitchen when needed in order to meet your new challenges? I'm not the one here coming up with ideas but I will surely encourage to think in new flexible concepts and designs.