

# Online Media Sharing for the Elderly

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## ABSTRACT

Current and future seniors are more and more active users of computers, mobile technology, and the internet. They also have a need to communicate and keep in touch with their family, relatives, friends, and their peers. The elderly are also very active in creating and sharing media in the form of photographs, photo albums, and family histories. Based on our user studies in online photo sharing we identify challenges and opportunities in designing multimedia sharing services for the elderly. The main challenge we see is the need for education and guidance in future services. The main opportunity is the already existing motivations and needs of the elderly to communicate with digital media and the willingness to spend time in creating valuable and refined media objects, such as photo books.

## Keywords

Photography, media sharing, mobile phone cameras, social media, elderly users, seniors.

## INTRODUCTION

Senior citizens in industrial countries are a growing user group which has been overlooked as a target for multimedia products and services. The elderly today, and even more in the future, are more active and healthier than ever before. Also, more and more of the elderly and retired have basic skills for using computer, mobile, and internet technology. The seniors often have also time to spend and a need to socialize with other people.

The grandparents are often the family historians in the form of photographs, stories, and knowledge on distant relatives. Creating family photo albums, putting photos of relatives on the wall, and studying genealogy are familiar activities to the elderly. In other words, creating media in the form of photo albums, framed pictures, or family histories is nothing new to seniors.

In our user studies on people's photo sharing, these aspects of the elderly have been clearly present. They are active in the internet, they enjoy viewing and commenting photos shared with them over the network, and they have a long history of taking photographs and putting them in albums.

In this position paper we describe our work on photo sharing systems, especially our experiences with the elderly users. Then we summarize the challenges and opportunities we see in designing media sharing services for the elderly.

## OUR WORK IN ONLINE PHOTO SHARING

Our main body of work is in three consecutive mobile photo systems MMM-1, MobShare, and PhotosToFriends [1,2,3]. The first two systems focused on sharing photos taken on a camera phone, the third system supported also the sharing of digital camera photos. The latter two systems were photo sharing systems, where the sharing was controlled so that the user explicitly selected the people with whom a gallery of photos was shared with. In other words, it was not a public website. Each user logged in with her username and password to see all of her own photos and the photos shared with her. The photos were shared in galleries, which could include one or several photos. Next to the photos the users could comment the photos. The commenting in the user tests was very active and popular, and this was because for each gallery was shared with a limited group of users who were most often friends or relatives. See Figure 2 for a screenshot a gallery in PhotosToFriends.



**Figure 1. The bedroom wall of an elderly couple. The positioning of the pictures shows the children (on the sides), the grandchildren (between the photo of themselves and the photo's of their children), and the grand-grandchildren (below the photo of themselves and on the table).**

With the MobShare and the PhotosToFriends systems we conducted three in-depth user trials. For MobShare we had two 5-6 week user trials with five users in each trial and the people they shared media with (altogether 87 users). For PhotosToFriends we had 6-8 week user trials with ten people and the people they shared media with. The objective of these trials was to see what kind of social uses people had

for online photo sharing systems and how the design decisions shaped those uses.



**Figure 2. An example gallery in PhotosToFriends. Here the user shared photos from her African dance class with 13 people. Next to the thumbnails are comments, and below each thumbnail is the number of times the thumbnail has been clicked open.**

In the user studies we had two primary users who were over sixty. The people who the photos were shared with included over ten people in their sixties or older. Below we describe one of the two primary users to give an example of what kind of activity there was.

### The Active Grandmother

One of the most active users in our PhotosToFriends user trials was a sixty-one year old grandmother. Like the other users in the trials, she was given a Nokia N-70 camera phone, a Canon iP5200 photo printer, and PhotosToFriends to use for six weeks. During the trial period she took 245 photos with camera phone and shared most of them in PhotosToFriends to 23 different people. The photos she shared were mainly of her grandchildren, her hobbies, parties and other special events. The people she shared with were her family, friends, new acquaintances from events, and her colleagues in a senior association. Figure 2 is a screenshot of one of her galleries.

When compared to the other users, whose age ranged from teenagers to people in their fifties, she was one of the most active users. She was quite familiar with digital photography before the trial and she was very active in a small hor-

tical web community. She also worked as a voluntary technology guide for other seniors. Therefore, she was more familiar with digital technology and the internet than an average senior. However, her above average knowledge of the technology made it possible to use the photo sharing technology to its full extent. It turned out that the photo sharing system was ideal for her in keeping in touch with her children, grandchildren and relatives abroad, for documenting her everyday life as well as special occasions, and sharing experiences with her friends and colleagues. She was also very innovative in using the photo printer. In addition to printing photographs, she printed her plant catalogue with pictures of plants, and made plant seed bags from the paper with a photo of the plant on the bag (see Figure 3).

Some of the other elderly people in the user trials were almost as active as the grandmother discussed here. They were very keen on commenting and viewing the photos shared with them, and they found the service a very positive way of keeping in touch. Some of the elderly were not active at all. The reason might be in difficulties learning the new technology or having no need to interact over the network. In the following sections we discuss some design challenges and opportunities in creating media sharing systems for the elderly.

### DESIGN CHALLENGES

One of the main challenges in designing for the elderly is that the basic components and devices in multimedia services (*i.e.*, mobile phone screens and keyboards, consumer digital cameras, web browsers) are not designed with the elderly in mind. Therefore, unless the designer has access to these components and devices, this remains a major issue. For example, in our studies the small screen size and the small keyboard on the mobile phone were problematic to the elderly (also to younger users). The limitations and problems with these user interface components should be taken into account in design.



**Figure 3. The printed plant catalogue and the seed bags made by the active grandmother with her camera phone and photo printer.**

Another challenge is to educate elderly users on the basic concepts and metaphors in multimedia services. Also, the basic computer and internet technology can be alien to some of the elderly. On the other hand, the elderly in the future will have more knowledge on information technology so this problem is diminishing in the long run. However, educating the elderly users remains a key challenge in the near future.

We have noticed in our user studies that often older people have more trouble understanding abstract concepts. This is often a bigger problem than understanding the technology itself. For example, charging models in mobile data networks are based on bits, therefore the cost of sending one photograph over the mobile network depends on the number of bits in the photo (*i.e.*, the size of the picture file), which is not necessarily a trivial concept to comprehend. We see that the role of guidance and user support is exceptionally important in systems designed for the elderly. This should be taken into account in the design both in the system itself and in the help and support services.

### DESIGN OPPORTUNITIES

As mentioned in the beginning, seniors have for a long time been active media producers in the form of family photographs and histories. Elderly people also have high value for documenting life with photographs, newspaper clips, and annotations. Thirdly, the elderly often have spare time to use, which is important in creating refined media objects such as photo albums which take time to create. Therefore, the elderly are ideal users for multimedia creation and sharing services. The grandmother described above is an example of this.

Keeping in touch and socializing with other people is one of the main issues in taking care of the elderly, and we see media sharing services as one way of facilitating this. One of the key findings in our studies is that media sharing is also a very social activity: sharing experiences, reminiscing shared events, or just discussing whatever comes into mind in viewing the media.

Organizing old photos and annotating them with text is also something elderly people know the value of. Unlike the teenagers in our user studies, the older users valued the documentation of important people, places, and events for future reminiscing. Writing family histories, taking and organizing photos, and creating photo albums are mental tasks that keep one's mind active, and therefore, they also have a mental health dimension into it.

We see opportunities for designers of multimedia products in designing specifically for the elderly. An example of these kinds of services or products is the photo books which are designed digitally and then printed in the form of physical books. It is the traditional photo album, and therefore, not a conceptually new thing, but at the same time it is

easier to create and can handle larger amounts of media than its fully physical counterpart.

### CONCLUSIONS

Current and future seniors are more and more active users of computers and the internet. They also have a shared need to communicate and keep in touch with their family, relatives, friends, and their peers. The elderly have also always been active in creating and sharing media in the form of photographs, photo albums, and family histories.

Based on these findings and our user studies we see the elderly as an important user group in services and products for creating, editing, and sharing multimedia. However, there are challenges in designing for the elderly much due to the fact that basic multimedia devices and user interface components are designed for younger people and these components can seldom be changed by designers (*e.g.*, camera phones). Also, not all of the elderly have even the basic knowledge required to use computers and the internet.

Nevertheless, designing multimedia services and products for the elderly has business potential, interesting research questions, and also mental health aspects from the users' perspective. We see the elderly as a unused creative resource in multimedia creation, editing, and sharing.

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