Improving Family Connectedness Through the Sharing of Life Experiences

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ABSTRACT

Lifeshare aims at improving the wellbeing of elderly people, especially the ones with physical and cognitive limitations, by reinforcing the feelings of togetherness and connectedness between them and their relatives. Lifeshare reinforces these feelings by keeping the elder updated with the whereabouts of his/her family. The family whereabouts are automatically captured and shared, without requiring the users to interrupt their routines, by a mobile application. The whereabouts information, which is the family members' location, is extended with context information (e.g., picture of the place) before it is sent to a tablet application. The tablet application offers a touchless interface, presenting to the elder the whereabouts information in the form of a slideshow.

Categories and Subject Descriptors

H.5.2 [**User Interfaces**]: Graphical user interfaces (GUI)

General Terms

Design, Human Factors

Keywords

Information visualization, location sharing, context-awareness

1. INTRODUCTION

In the last years, people became increasingly "mobile", for work, study, or personal reasons. In most families, some of the members moved to a different city or country. This results in more family members living far away from each other.

Technology makes it possible and even easy to remain in touch, but older adults, and more in general people with cognitive and physical limitations are often cut out from the communication: they cannot use social media, and sometimes even the phone is a challenge because of hearing issues. In addition, younger family members do not always wish to spend a lot of time interacting or updating older family members, such as their grandparents, on where they are or what they do. Sometimes this is "intentional" (they do not wish to do so), but very often it's just a matter of not finding the time or the will to make the effort to share. This phenomenon creates social issues for the elderly since it is more difficult to stay in touch with their families [4].

In this work we present *Lifeshare*, a set of applications for smartphones and tablets that bring families closer by enabling family members to share their life experiences with their family (and specifically with older family members), so that older adults can have a glimpse - at an arbitrarily high level of abstraction and of privacy - on where they are and what they are doing. The key assumption (and design principle) is that we require neither the younger (the sharing party) nor the older family members (the receiving party) to make *any* effort, up to the point that none of them is required to do anything or touch anything. Applications run in a completely no-touch mode, and yet allow the receiving party to be aware of what's happening in their family, giving a greater feeling of connectedness as well as stories to tell.

For more information about Lifeshare, please visit the project homepage at `http://www.lifeparticipation.org/lifeshare.html`

2. THE LIFESHARE PROJECT

Lifeshare is composed of three main applications: two mobile applications, one for tablets and one for mobile phones, and a server that manages the sharing process between the mobile applications. The design of Lifeshare is based on the guidelines found in [2], for example, we took into consideration the trade-off between manual and automatic collection of information which directly affects the precision and ac-

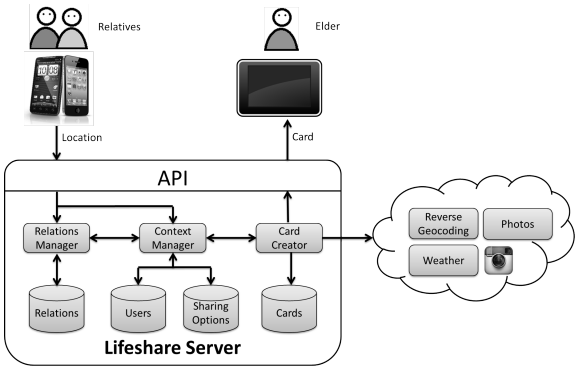

Figure 1: The Lifeshare Architecture

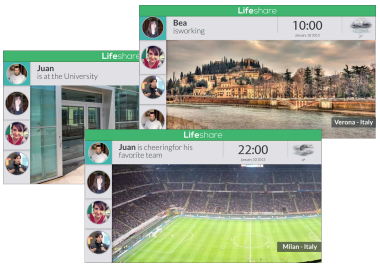

Figure 2: Example of cards generated by Lifeshare

curacy of the collected information. Figure 1 illustrates the lifeshare architecture and the sharing process.

The sharing process starts from the mobile application. The mobile application is used to collect the location of the relatives and it is designed to do be the least invasive as possible. The application runs in the background and collects, at precise intervals, the information of the current user's location. Once the location is obtained, it is automatically sent to the server.

The server is in charge of creating and exchanging the context information of the user. The server receives the user's location, and annotates it with photos, weather and time information obtained from existing external services. The server then takes all this information and frames it in a picture, which we will refer to as card. The card is sent to the connected relative, which is the elder at home. Figure 2 shows some examples of cards.

The sharing process ends in the tablet application. The tablet application is created for elderly people and it is used to display the cards of the relatives; the application has a touch-free interface to display the whereabouts of the family, that is, it does not require any user interaction. The tablet application visually notifies the elder every time a new card arrives. The cards arrive in an automatic fashion and are displayed in a slideshow (rotating every one minute). Every time a new card is created, it is collected and displayed as the main card for a fixed amount of time.

3. DESCRIPTION OF THE DEMO

We will demonstrate Lifeshare in three ways: (i) by presenting cards that can be created with Lifeshare (ii) by simulating users presence in any part of the world and (iii) by doing a live test of the application.

3.1 Generated cards

With this demonstration we want to show the different daily life scenarios that can be captured and shared with Lifeshare. We plan to generate cards that represent different daily life scenarios, for example, a work day, a weekend, a vacation trip, etc. At the conference, we will show these cards with the Lifeshare tablet application.

3.2 Simulated cards

We provide a map application that allow conference participants to pinpoint locations and generate cards accordingly. The purpose of the map application is to simulate the presence of a Lifeshare user in any part of the world. In this demonstration only the location of users is simulated, while the context information are retrieved in real-time by the server to generate the cards.

3.3 Live cards

For the live test demonstration we plan to make the Lifeshare mobile application available to the conference participants, so they can experience themselves the Lifeshare concept. The conference participants will be able to test the application and see what cards are generated by their current position. Furthermore, participants can share share the application with their friends and family and experience the Lifeshare application in all its essence, seeing cards automatically generated by relatives.

4. RELATED WORK

There are already works for sharing context information. The digital family portrait [3, 4], shares context information related to the user location in a house by using sensors installed in the house. The main difference between this work and ours is that this work shares the elder's activity with their family as a mean to keep an eye on the elders well-being, while we aim at sharing the activities of the family with the elder to increase his/her feeling of togetherness.

The Whereabouts clock [1] allows users to share their location based on places previously tagged. The main difference between this project and our work is that we augment the location data with context information, and we do not require the user to tag places.

5. REFERENCES

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