

Orit Zuckerman

Project proposal

Martha is coming home from shopping. She glances at the picture frame on her furnace and see her 3 grandchildren pictures in it. Ethan is not at home right now, Maya is asleep and Aden is at home. She sees that Maya has a new "welcome home" message for her. Martha touches Maya's picture and playbacks the message, Maya tell and show the painting she did especially for Martha. Martha touches record and leave a "good morning" message for Maya (who is currently asleep). Then she touches Aden's picture and records a "good night" message for Aden.

Aden is about to go to sleep. He had his bath and said good night to his parents. He goes to bed and says "good night" to the CASY pillow. Looking at the pictures of Maya, Ethan and Martha he sees that he has a new good night message from Martha. Aden touches Martha's picture and playbacks the message. He really wants to tell Ethan about the new game he got, so he touches Ethan picture and he record a message about the game that Ethan will hear as soon as he comes home.

Sharing life with a loved one builds a delicate and balanced awareness of each other wellbeing and needs that contributes to connectedness. When people live apart, it is very difficult to maintain this delicate balance. Modern technology brought a proliferation of communication tools like phones, e-mail, cellphones and IM. Nevertheless it is not even close to the connection people have when living in the same house.

In this proposal I will focus on connecting grandparents and grandchildren. It is well known that grandparents play a unique role in the life of their grandchildren. But, when physically apart, children has more difficulty communicating in real time (phone) with adults, especially when they don't meet them frequently, thus losing the potentially unique relationship with their grandparents.

I propose to design and build a contextual awareness system (CASY) that will deliver contextual video messages that will be recorded in the sender's convenient time and will be delivered to the other side when it is most convenient and appropriate for them to receive it.

There are several transitional moments in our daily life at home, where the presence of a grandparent can be highly engaging for a grandchild. These moments are waking up, going out of the house, coming back home and going to sleep. CASY will enable grandparents and grandchildren to leave good morning/bye bye/hello/good night video messages to each other and will deliver it to the other side when they wake up/go out/come home/go to sleep, respectively.

CASY consists of a:

- Video capturing device that will record a visual/audio messages.
- Database to store the messages + contextual keywords
- Display device to play the messages
- Voice recognition to context messages and play them at the right time.
- Interface that show pictures of all family members with icons on their location (home or not), time, activity (asleep, eating, playing etc...)
- Sensors (vision, audio, IR)

First prototype hardware and technology:

Grandparent side:

A computer using a webcam, microphone, and speakers.

Grandchild side:

Display device (iPaq, tabletPC...) with a camera microphone and speakers that is a part of a pillow that the child can carry with him around the house.

Context: Getting up in the morning (good morning) and going to bed (good night)

Software:

Java, TCPIP, Sphinx, Open CV.

⋮

I will evaluate the project by collecting statistics and doing interviews and diaries of 2 groups. One group will work with CASY, the other group will communicate as they are communicating today.