Team Project Two: Using Digital Technology to Improve the Lives of the Elderly in Retirement & Nursing Home Environments

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_Digital Utility Center for Retirement Communities_
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Digital Media Design
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Project
Background Statement

The 2000 US Census counted nearly 60 million people 55 years of age or older. It is anticipated that the number will be much larger for the 2010 census. A survey in the last decade indicated that:

(1) 21.4% of people nearing retirement plan to live in a retirement community with or without healthcare services (almost 13 million)

(2) 8.5% plan to live in a retirement community without healthcare services (5 million)

(3) 6.9% plan to live in a nursing home (a little over 4 million). This totals 22 million expecting to live in a retirement community.

A 2007 survey indicates that the number of people in the US currently over the age of 65 (35+ million), will nearly double by 2030 to about 71 million. Worldwide there are currently 506 M people over 65. By 2040 this number is expected to be 1.3 billion.
Problem Statement

As the retirement/nursing home population grows, significant challenges face the people moving into these facilities. Many of them have been living on their own, possibly as shut-ins, and now have to deal with integrating into a pre-existing community filled with people about which they may know little to nothing. Additionally, they may not understand the “culture” of the home or the day-to-day activities and services offered there, possibly resulting in feelings of isolation and depression. Thus, our group saw the pain point as the question “How can we create something that not only informs retirement/nursing home residents about the facility but also helps to create a sense of community and participation within the residence thus contributing to residents’ overall quality of life?”
Solution Statement

Our design seeks to utilize and combine existing technologies (touchscreen smart devices, Internet, intranet, and VOIP) into a device system that could be easily used by residents who may have low levels of technological competency and confidence. This design consists of a large, interactive touchscreen display in individual resident rooms to represent, at a glance, all of the facility’s possible activities, services, special events, and important information (relative to the individual resident) as well as a larger display in the common areas that serves as a larger message board for the community complete with “personal ads,” scrolling news tickers, real-time results for on-going game tournaments, and the daily activities. Since adopting new habits, especially concerned with technology, late in life is often met with resistance or anxiety, our system makes use of iconography, relying on mental and visual metaphors (one of which is a cork message board) with which residents might better relate.
Detailed Solution

In-room “Utility Center”—a take on the traditional cork message board system familiar to older generations. Important information is displayed as notes pinned to a cork board (such as important dates for the month, personal ads from fellow community members, the menu of the day, and the resident’s individual schedule for the day). This “cork board” is located next to a divided area dedicated to communications. This area features include, phone calls (can be initiated through the telephone icon), voice mail (answering machine icon), video chat (utilizing the web cam on top of the screen), streamlined email and text messages (mailbox icon), a contact list, digital memo pad, and a calendar. Below, are two sections: the activity center and weather center. In the activity center are games (both for finding groups..." to "games (both for finding groups with which to play and, to accommodate those with limited mobility, to play virtually via web cam)." This is to help residents with limited mobility). In the weather center, residents can check out the forecast today or rest of the week. In addition to the touchscreen, there will also be a wireless keyboard, a stylus, a dictation option, a web cam for contacting family/friends, an on/off toggle switch, and adjustable screen brightness.
Design
Features

corkboard
interactive
updates

web cam

communications

screen
controls

power &
brightness

activities

weather

attatched
stylus

911
PAGE NURSE
SHOPPING LIST
CONCIERGE
SALON APPT.
COMMUNITY

BRAND NAME SCREEN

PERSONALS
Seeking 4 people to join our bridge team. Contact George.

ACTIVITY CENTER
Today

WEATHER CENTER

ACTIVITIES

FEATURING IMPORTANT DATES
May 7th Frank’s 27th Birthday
May 14th Eye exam
May 15th Family visit
May 27th Don & Lila’s Anniversary

MAIL BOX

VIDEO CALL

PHONE CALL

86% CHANCE OF THUNDERSTORMS
90% HUMIDITY
20°C

OFF

400 am Breakfast
7:30 am Water Aerobics
12:00 pm Lunch
4:00 pm Book Club
6:00 pm Dinner
7:00 pm Bridge Night

View more
Modules
Cork board Interactive Updates

**Daily schedule**
Residents can view the date and time, check their daily schedules, and look ahead for the week.

**Personals**
Residents use this widget to create personal ads seen by others in the community.

**Daily menu**
The daily menu is updated to reflect each meal of the day.

**Important dates**
This widget keeps residents up-to-date about upcoming community events, family birthdays, doctor appointments, etc.
Communication

**Video call**
Residents use this widget to easily video chat with family, friends, and other members of the community.

**Telephone**
Residents can call any phone number with this widget. Users can also receive voice messages.

**Mail box**
The mail box widget streamlines email and text messages into one location.

**Memo**
This widget allows residents to make quick notes for later reference.

**Calendar**
The calendar widget allows residents add appointments and events.

**Contacts**
Residents can refer to their contacts widget to keep track of phone numbers and addresses.
Activity Center

**a. Games**
Residents can access games that they can either play solo or cooperatively with the web camera.

**b. Video**
Residents can access the community’s media collection and access streaming services such as Netflix and Hulu.

**c. Library**
The library allows residents to access e-books or listen to audio books.

**d. Music**
This widget allows residents to listen to satellite radio services and music streaming services like Pandora, Spotify, and Songza.
The weather widget allows residents to follow weather updates and forecasts for the coming week.
Action Widgets

911
Residents can call 911 with a touch of a button - this is supplemental to an emergency communication device.

Page Nurse
For non-emergency medical situations, residents can page the on-call nurse - also supplemental to communication device.

Shopping List
Residents can request items to be bought for them by adding them through the shopping widget.

Concierge
Residents can make requests to the staff with this widget.

Salon Appt.
Residents can schedule salon appointments at the on-site facility.

Community
Residents can make posts to the community board and check on events such as game nights.
Controls

- **a** Off
  Residents can turn off the screen by tapping this button.

- **b** Volume up
  This control turns the volume up incrementally.

- **c** Volume down
  This control turns the volume down incrementally.

- **d** Mute
  All sound from the device can be silenced.
Off-Screen Features
Web cam

Residents use the web cam to easily communicate with family and friends via video chat.

Slide cover
Residents can put aside privacy fears by using the slide cover for the web cam lens.
External Controls

- **Power**: This control powers on the device.
- **Brightness**: This dial controls the brightness and contrast of the screen.
Input Methods

Stylus
Residents can type or draw using the attached stylus.

Wireless Keyboard
If they prefer, residents can type messages using a wireless keyboard.

Voice Command
For residents who suffer from vision issues or arthritis, voice command and dictation can be configured by a staff member.
Interactions
Interactivity Indication

Interactivity is indicated through variations on visual treatments of icons.

In this wireframe, it is demonstrated by change in color and thickening of outline to indicate on-tap interactivity.
Interaction Example

Tap Interaction
Users can discover interactions by tapping on icons with visual treatments.

Users can change dates, open widgets, get more information, etc. by following the visual cues on screen.
Inspiration
Inspiration

Our design was inspired by:

- Smartphone/tablet applications, games, & widgets
- Cork board communications in college
- Community forums
- Pinterest
- VOIP services
- Smartboards
- Online dating sites
- AOL icons-
How it Comes Together
### In-Room Display

Residents have an in-room display inside their personal residences from which they can interact with each other and the outside world.

### Community Board

Residents can check the main community board to keep abreast of the latest happenings in the community, see the teams in the lead for games and competitions, hear about events, and follow breaking news and stocks.

### Emergency Gadget

Residents carry a smartphone-sized device from which they keep on their person and can access the action icons presented on their in-room display - this relies on 3g service or wifi.
Who We Are
Who We Are:

Eliza Barry

I'm Eliza and I'm interested digital and real-world user experience, be it an app or a party. I think structurally, but focus on aesthetics.

Lauren Claymon


Rae Gibbs

Rae Gibbs: U/X/I rschr.desigmr, MIS student, post-it magician, art/writing dabblr, culture, cook, trekkie, whovian, world-wanderer