Virtual Companions and Friends

Christine Talbot
University of North Carolina - Charlotte
Future Computing Lab
Charlotte, NC
ctalbot1 at uncc.edu

ABSTRACT
For those of us who live alone, or have lived alone before, I’m sure you are familiar with the emptiness that can come with being home. With today’s electronics, we are able to fill some of that void with at least the noise of company; however who do we share our day with? Where can we find new and stimulating news that is geared towards our own interests?

My research proposes a solution for these folks - an application that would allow you to go home to a virtual human that would greet you when you got there. The virtual human could have stories to tell you about their day. This companion could be your new best friend. They would know your interests, likes and dislikes; they could interpret your mood and respond in kind and present information / news feeds pertinent to you.

Keywords
Virtual Human, Companion, Friend

1. PROBLEM AND MOTIVATION
For those of us who live alone, or have lived alone before, I’m sure you are familiar with the emptiness that can come with being home. With today’s electronics, we are able to fill some of that void with at least the noise of company; however who do we share our day with? Where can we find new and stimulating news that is geared towards our own interests?

My research proposes a solution for these folks - an application that would allow you to go home to a virtual human that would greet you when you got there. The virtual human could have stories to tell you about their day. This companion could be your new best friend. They would know your interests, likes and dislikes; they could interpret your mood and respond in kind and present information / news feeds pertinent to you.

Research has shown that people with pets have better health and mood because they provide a “focus of attention that’s outside of someone’s self” [6]. I propose that a virtual companion could pose as a possible recipient of that attention. Having an empathetic listener to vent the stresses of your day to, someone to come home to, and someone who could help get you in a better mood could make a world of difference.

Older generations typically exhibit apprehension with respect to trusting electronic devices and the internet. This research hypothesizes that the presentation of realistic, virtual companions will assist in assuaging this fear. It could also enable the elderly to live alone in their own homes longer by introducing some linking capabilities to family / friends to ensure relevant personnel and family are notified in the event of an emergency, medical or otherwise.

2. BACKGROUND AND RELATED WORK

Today, we have many “companions” out there, but none that focus on befriending the user. There are companions for the elderly that are mostly monitoring systems. They provide alerts for medical emergencies such as missed / incorrect medication dose, accidents in the home, etc. [3]. However, the reported usage of computers by the elderly is somewhat discouraging, even though it could enable them to live independently longer [4].

- Digi Electronic Virtual Pets, where you feed and care for the pet to keep it alive
- HAL, which focuses on the textual interaction which learns as you go (http://www.a-i.com/show_tree.asp?id=97&level=2&root=115) [1]
- Chat rooms to get some sort of human interaction, such as AIM, Yahoo, etc.
- Organizational virtual humans that help you organize your computer and allow you to do your mail like the virtual humans you can find at http://www.guile3d.com [2]

The majority of these aren’t really looking at developing into a real friend and interactive companion that is your equal. They are mostly task-oriented embodied agents.

3. APPROACH AND UNIQUENESS
This research proposes a virtual human that would live in your home. To accomplish this, the virtual human will be created using Maya. It will be an autonomous agent, not
scripted, and will utilize the culturally-enabled FAtiMA (C-FAtiMA) architecture to enable emotions and personality to play a central role [5].

As the user interacts with the virtual human, it will learn their likes and dislikes and model its personality and information presentation to personally fit the user. The virtual human will have access to the web to obtain relevant information to present to the user, such as news, articles, etc. in which the user has shown interest. The greater the interaction the user has with the virtual companion, the greater will be the companion’s adaptation to the user.

Features of the virtual companion will include: facial and voice recognition; mood detection based on the user’s facial expressions, gestures, voice features, and biometric sensors. The main goal of the virtual companion is to provide a realistic friend with whom the user can communicate their feelings. The biometric readings would be incorporated into the alert system to notify friends, family and / or medical personnel in the event of an emergency.

4. REFERENCES