Senior Citizen's Usage of Technology

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Introduction

As time goes on, technology continues to improve and supersede older models. These improvement, while good and necessary, can generate fear in the senior citizen population because of the rate at which seemingly good technology becomes outdated. This fear and anxiety regarding technology and its advancements is the main problem this paper, and the research done this summer addresses. The current approach is not enough to solve this problem because it [1] just throws people in the deep end (Smart Homes) without bothering to introduce them to the underlying technologies or dealing with their fears of these technologies.

Approach: Computer Literacy

One way to deal with these underlying anxieties about new technology is to introduce senior citizens to very basic technology and showing them how useful it is and how easy it is to implement in their daily lives. This summer we focused on two different ways to accomplish these goals. The first being to actually have computer literacy classes where we taught senior citizens the basics about computers and how to use them in their daily lives. We accomplished this goal by holding six different sessions with the senior citizens where we taught them basic concepts and built on these concepts throughout each session. In the first session we alleviated their fear of breaking the devices by showing them how sturdy the mouse is and letting them know how inexpensive they are. We then proceeded to show them how to use the mouse on the computers (ie. Left click, right click, scroll, etc…) In the second session we taught them the key

combinations that come with most windows machines. These were taught because most seniors found it difficult to be accurate with their mouse click and it was a way to make it less strenuous on them. After this session, they did not even want to use the mouse anymore. In the next session, they were taught how to use browsers and how to navigate the internet. The internet is the main reason people use computers and we had to teach them how to safely navigate through it and conduct basic searches for information. In the next session they were taught how to use emails. This was by far the most challenging session. The reason email is so challenging is that the buttons are: too small for the senior citizens to see, and the purpose of the buttons and some bars are hidden so even if they do find them and are able to click them, the senior citizens could not determine the purpose of these buttons. They were also warned about email frauds. In the next session they were warned about the dangers of the internet. Now that they knew how to browse it was important to let them know the privacy issues they were being introduced to. They were taught how to tell if a website was authentic and what ads are.

Figure 1: Session 1, learning the mouse

Figure 2: Timothy Sellers helping a senior citizen

Approach: Smart Home

The second main project I focused on this summer was Smart Home integration. Smart Homes are important because they allow senior citizens to control their homes with minimal

effort. This is great for them because one of the main reasons for the lack of interaction between senior citizens and modern technology is the fear that modern technology is too complicated and requires an expert to use. I was tasked to figure out a way to use Alexa as a base for a Smart Things HUB and to create a smart hub for a home this is convenient for senior citizens. This was an extremely difficult task because in order for the hub to work with Alexa and its commands, it has to be linked to Alexa through Amazon's developer server. This was accomplished by creating a backend server with Node-Red and linking it to a front end on Amazon AWS. At the end I was able to create the smart home set up that we used for DEMO's. It was capable of alerting anyone in the house when someone approached the door via the speakers reading a message from the Node-Red server. It would also make the lights blink and change colors based on the location of the visitor. In addition to the notification server I was able to get the Alexa/Node-Red server to control daily appliances like lights, fans, etc…

Conclusions

Senior citizens are just like the rest of us. The only difference between our generations is that we grew up with the technology at our fingertips and have had them integrated in every aspect of our lives, so we do not develop this layer of fear and anxiety regarding technology. Senior citizens just need people willing to help them learn how to use the technology and to teach them that it is not as scary as it has been made out to be.

Citations

[1] Brite Schiffhauer, Jasmin Bernotat, Friederike Eyssel, Rebecca Brohl, and Jule Adriaans. *Let the User Decide! User Preferences Regarding Functions, Apps, adn Interfaces of a Smart Home and a Service Robot.* Bielefeld : s.n.