**Male, a high school student, 18, living with his parents and his pets**

Interviewer: We are a group of students from University of Southampton Malaysia and we are facilitating this focus group interview to research more about the smart home systems from the user’s perspective. The goal of this interview is to gain some valuable insights from the potential users of this system to enhance the usability and user experience of the aged care system. You have been selected as one of the interviewees as you have been identified as a potential user that might provide unique opinions on the smart home area. Our research project as a whole focuses on the interaction design of smart home technology, with particular interest in the area of automated pet care and aged care systems. Prior to the interview you will be briefly introduced to the topic of the interview and you will be required to sign two consent forms (one to sign and return and one to keep). The interview will take approximately 15 minutes and it is semi-structured.

Participant: Yes, I understood it already

Interviewer: Do you understand what a smart home system is?

Participant: Yes. I knew it since I saw a lot of owners install the smart home system for their new home.

Interviewer: Can smart home technology significantly improve the quality of care system? Would you use it for your parents and why?

Participant: Yes definitely. Since my parents is older and plan to retire, then they will spend a lot of time at home, so I am worried about their situation at home. Through this smart home system, I can get the real-time information about them.

Interviewer: Is customization a key feature in smart home systems for personalized aged care? What would you like to customize and why?

Participant: Yes. I would like to customize the medicine reminder function with an alarm which ring the buzzer that can help us to remind our parents when there is no one inside the house especially for someone who always forget the things to do. Moreover, I would like to have emergency call services for the injured case and help us to save our elder at home.

Interviewer: What do you think should be a priority when designing a smart home system for old people? Why?

Participant: I think a smart home system should include a video-based system such as CCTV to monitor elder’s motion which can help the children to recognize the elder activities at house. Since the motion is detected, then we can receive notification through our smart home system to get know what is happening and how to cope with it. Some sensor devices should be worn by the elderly user to detect their heart rates and respiratory rate to remind them don’t do some extreme activities and rest when there is a need.

Interviewer: Could you name a few challenges that could be addressed by smart home technology in aged care? Do you have any suggestions to overcome it?

Participant: Since the smart home system provide a lot of features, but then if no one teach the elderly users to use then it may be challenge as they cannot interact with that system. Besides, if they cannot interact properly, then this system will become useless in that home. Thus, a good user interface of smart home system should be provided in order to make people maximise the use of it to control our home and provide aged care to our elderly user.

Interviewer: What are the features that you would find useful or would be interested in for an aged care system? Why?

Participant: It is convenient for the elder to control it and provide a quality care for the elder at home such as play the Youtube movie for those who don’t know how to use digital devices, remind them to have meals on time.

Interviewer: What is the most effective notification system that you could think of for elderly users? Why?

Participant: Voice-based system which allows elderly user who have eyesight problem and don’t know how to read texts. Besides, the bigger font size on the screen should be provided make ease of use.

Interviewer: Imagine a futuristic pet care system for smart homes. What sci-fi feature or capability would you love to see integrated into this system for your pets?

Participant: Pet care should include feed, groom, clean their shelter automatically and others to provide a quality care for their precious pet. If all the features are provided, I would glad to have this system in my home.

Interviewer: If automated pet care systems were designed to be sustainable and eco-friendly, what features do you think it could incorporate to maximize energy efficiency or reduce their environmental impact?

Participant: They can track the daily routine of the pet to refill feed, water, clean their poo based on the analysis. Then, the system does not need to stand by all the time and change it to schedule mode.

Interviewer: Do you believe that the use of automated systems would throw off the balance of you and the system providing personal attention and care to your pets? (Are there ways to improve this balance?)

Participant: It would not affect the balance of you as long as we are the one who provide companion to the pet, but the system would only provide their basic needs. It is totally different things provided to the pet.

Interviewer: Are there any concerns you have regarding the safety and well-being of your pets when relying on automated systems in a smart home?

Participant: I would afraid that the pet will enter some dangerous zone such as the drawer which store the sharp object. Other condition is that the system maybe not so smart detect the fall of pet consider as an emergency condition but then it just jump and run in the home.

Interviewer: Can you suggest any specific enhancements or new features that would make automated pet care systems more valuable to you as a pet owner?

Participant: The translator which helps us improve our interaction between owner and pet. Automated cleaning system is provided as it is difficult to help some pet to shower since they are scared of water.

Interviewer: What type of biometric authentication do you prefer (Fingerprint, face recognition, password, access card, key)? Why?

Participant: I would prefer face recognition as it is more convenient to authenticate our identity. If we use fingerprint, we still need put our finger on the verified machine but through face recognition, we only need one camera.

Interviewer: Are you comfortable sharing your personal data with the smart home system? If yes, then will you allow it to record your daily activities? If not, then why?

Participant: Yes, it can help me to schedule some household cleaning activities without my instructions, then it can do it itself. Besides, I hope it can automatically play music during my bedtime.

Interviewer: Do you prefer your smart home system to have a children-friendly mode? Why? (PS: children may lead strangers to their home without parents’ permission)

Participant: No, as they may touch the wrong buttons such as emergency call which may lead to the waste of resources of public. The worst case is that the children may lead strangers to the home and moreover the stranger may stole something from the home and hurt the children or elder.

Interviewer: What do you think a smart home system security feature should include? Why?

Participant: Give the warning notifications when someone is trying to enter your home but keep give wrong authentication message to the strangers. It can quickly remind the owner to check their cctv to know the situation.

Interviewer: How much control do you want your smart home system to have?

Participant: through the voice control which may be easy to explain what we want to do or ask the smart system such as “ Hey, Siri”. Besides, I hope it can control all the automated machine and schedule them to help me do households to reduce my energy.

Interviewer: In your experience, what are some effective design patterns that could enhance the security of smart home systems? (answer some specific questions, setting primary user,…)

Participant: Setting a primary user who is especially the owner of the house. Then , when there is someone who cannot enter the house, then we just ask the primary user access the people to have the authentication to enter. Besides, give the right to the primary user to add, remove, and update their control to some smart lock at home. For example, don’t access the right of children to enter the kitchen which may consists of dangerous object and a lot of foods.

Interviewer: Thank you for your time and valuable input. Is there anything you would like to add that we haven’t mentioned?

Participants: It is really a good potential system as it can provide a lot of features we need to help us in order to enhance our quality life such as aged care system, pet care system, and alert notification. That’s all for today.

Interviewer: Thank you so much.