

Protocol for Conducting Interviews, Survey and Usability Study

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1 Introduction

This technical report presents the protocols used in the development of the Golden Jubilants application that formed part of ReDEAP project within software engineering, and supports a selection of outputs from this project to include [1-5]. The protocols include semi-structured interviews questions, survey questions, and usability studies - all used in our data collection with our Older Adult user group. Section 1.1 presents the objective of interviews along with demographic and main questions. Similarly, Section 1.2 illustrates the goals of survey and the associated questions. Finally, Section 1.3 depicts the system usability questionnaire along with 3 semi-structured questions used while conducting the usability study with older adults.

1.1 Protocol for Semi-Structured Interviews

Overview The purpose of the interviews was to identify the potential barriers interfering with and the motivators towards the use of smartphone applications, e.g., social network systems, for older adults. In addition, the intention was to understand the attitude of older adults towards technology and extract and accumulate functions that should be met by a smartphone application to make it usable by and accessible for them. Moreover, the underlying intent was to understand the viability of an interactive virtual community network that will help older adults find/provide volunteer services locally, which in turn can integrate them into the local community. This protocol is also used in [1, 3].

Your Profile

- Do you have access to at least one technology (e.g. text on phone, skype on ipad)? [Y / N]
- Do you have access to the internet at home? [Y / N]
- Are you over 50? [Y / N]
- Are you fully or partially retired? [Y / N]
- Do you have 45 minutes to 1 hour free now? [Y / N]
- Do you live in Rural or Urban Ireland? [Rural / Urban]
- Have you undertaken volunteer work now or in past? [Y / N]

Confidentiality With your permission we would like to analyse and aggregate the data along with all the other responses we collect from the general public. Any data relating to the interviews will be securely stored, and anonymised so that your name will not be associated with any of your responses. Your identity will remain confidential. Your name will not be published and will not be disclosed to anyone outside the study group. Please be assured that you have the right to withdraw from being interviewed at any time during the interview, and do not have to participate in this study if you do not wish to do so. We anticipate that this session will take about an hour.

Permission This research project has been approved by the Faculty of Science and Engineering Ethics Committee at the University of Limerick, and is being facilitated by Dr Sarah Beecham and Prof Ita Richardson from Lero - the Irish Software Research Centre, University of Limerick.

Further Information If you are interested in learning more about this research and how your answers have guided our study please include your contact details here:

Alternatively, you can gather more information or answers to your questions about the study, your participation in the study, and your rights, from lead researcher Dr Sarah Beecham (sarah.beecham@lero.ie). If the study team learns of important new information that might affect your desire to remain in the study, you will be informed at once. If you have further questions regarding this research please feel free to get in touch with me via the email address: bilal.ahmad@lero.ie. If you have concerns about this study and wish to contact someone independent, you may contact: The Chair, Faculty of Science and Engineering Research Ethics Committee, University of Limerick, Limerick. Tel: 061 202802.

Demographic Questions

1. What is your age?
2. What is your gender?
3. What is your marital status?
4. What are your educational achievement(s)?
5. What is (or was) your profession before you retired?
6. What are your living arrangements? Tick whichever applies.
 - I live alone
 - I live with extended family
 - I live in a care centre
 - Other: please specify
7. What do you think about your health and life in general? Circle one of the following.
 - Excellent
 - Good
 - OK
 - Could be Better
 - Bad
8. What is the name of the town/village where you live?
9. Are you willing to talk to us again about our research in the future? [Yes/No]
Telephone Number :

Preferred Name :

Email :

Thank you for completing this survey, and for your participation in the focus group.

Detailed Questions

1. What types of technology do you use to connect with people?

2. Which one is your favourite, and why?

3. How adventurous are you about technology?
 - What new technologies have you tried this year?
 - Could you please list the websites or apps or any technology you interact with?
 - How are you using the technology(ies) and how often do you use it?_____

4. Did you know that there are some websites/apps developed especially for older adults?
 - Do you think that there is a need to have a tailored website for people of your age? (e.g. catering for vision, dexterity, etc)._____

5. Who do you talk to using your chosen communication device? (List top 5 people and or groups:)

- Do you use Facebook or Skype or Twitter or Facetime for this purpose? (List how you communicate:)

- How often do you use the technology for communication? (circle the frequency that most accurately represents your usage)
 - Several times a day
 - Once a day
 - A few times a week
 - Twice a week
 - Once a week
 - Once a fortnight
 - Once a month
 - Vary rarely
 - Never.

- What are the other activities you perform using these systems?

- How do you feel about the technology you mentioned? E.g. you like it and cannot imagine anything better, or ???

- Is this technology helping you to integrate with family/friends and local community? [Y / N] If Yes, how?

- Can you think of anything that would increase your motivation towards using the technology?

6. Have you had any experience working/acquiring as a volunteer? [Y / N]
- If yes, what, if anything, did you gain personally from volunteering?
 - What motivates you to do volunteer activities?
 - Do you expect any kind of incentives by using our system to provide volunteer services? (e.g. virtual rewards, certificates).
- _____
- _____

7. We are planning to develop a platform (web or mobile app) – a new way for you to engage with the local community. The idea is that you can use the platform to search for services or offer volunteer services within your local community. Our concept is, for example, if you would like someone to give you a lift to a shopping centre, you can just use our system to search those people who are willing to provide this service. You can simply text or call them and they will be come to pick you and vice versa. Other examples could be teaching, counselling, coaching, sports. We do not have a name for the platform. Can you help? What do you think we should call our new idea? Ideas for what we can call this idea:
- _____
- _____

- What are your thoughts about having such a system?

- Do you have a skill(s)/hobby that you would like to share?

- What are the most important things that you would like this system to do?

- How would you like to communicate (e.g., by talking in a similar way to a telephone like alexa from amazon, Siri for Mac, texting, emailing, dialling on a phone) about any services which you require/offer?

- Can you think of any reasons you might be reluctant to use such a system?

8. What are the additional functionalities that you would like to be included in our system? (e.g. calendar for reminder, diary or planner)

9. Is there anything else you would like to say about why you want or don't want such a system?

10. Are you are interested in being involved in the future in evaluating our prototype? [Yes / No] If yes, please give us your contact details here:

1.2 Protocol for Survey

Along with interviews, we conducted a survey to understand older adults Internet, mobile phone and computer usage. We also wanted to capture their needs and expectations from such a device. Many of the questions related to how they use mobile phone – however, we were also interested in hearing from those people without a mobile phone, and several of the questions here were applicable to them. We have left space for older adults at the end of the survey, if they wish to provide additional information. This protocol is also used in [1, 5].

Demographic Questions

1. What is your age?
 - Below 50
 - 50-55
 - 56-60
 - 61-65
 - 66-70
 - 71-75
 - 76-80
 - 81-85
 - Over 85

2. What is your gender?
 - Female
 - Male
 - Prefer not to say
 - Other...

3. What is your marital status?
 - Single, never married
 - Married or domestic partnership
 - Widowed
 - Divorced
 - Separated
 - Other

4. What are your educational achievements?
 - No schooling completed
 - Nursery school to 8th grade
 - Some high school, no diploma
 - High school graduate, diploma or the equivalent
 - Some college credit, no degree
 - Trade/technical/vocational training
 - Associate degree
 - Bachelor's degree
 - Master's degree
 - Professional degree
 - Doctorate degree
 - Other

5. What is your work status?
 - Fully retired
 - Partially retired
 - Working full time
 - Other

6. What is(was) your profession?

7. Have you undertaken volunteer work now or in the past?
 - Yes
 - No
 - Maybe
 - Other...

8. If you have undertaken volunteer work, please write details e.g. teaching, toast-mastering, child-care etc.

9. What are your living arrangements?
 - I live alone
 - I live with extended family or partner
 - I live in a care centre or retirement village
 - Other...
10. How do you rate your health and life in general?
 - Excellent
 - Good
 - Ok
 - Could be better
 - Bad
11. Do you live in a city, town, village, countryside?
 - City
 - Town
 - Village
 - Countryside
 - Other...

Main Questions

1. Do you have a mobile phone? If yes, please indicate the type here and skip to Question 3. Otherwise go to Question 2.
 - I have an Android (e.g. Samsung, Sony, Microsoft)
 - I have an Iphone (Apple)
 - I have a mobile phone but am unsure of its type
 - Other...
2. I don't have a mobile phone because:
 - No network coverage
 - Expense/cannot afford one – it is an expensive option.
 - Don't have a use for one
 - Don't trust it
 - It is too complicated to operate
 - The buttons are too small
 - The screen is too small
 - Other...
3. What do you use your mobile phone for and how frequently?
 - To receive and make outgoing calls
 - To receive and write text messages / SMS
 - To communicate with groups (e.g. WhatsApp groups, Twitter, Facebook)
 - To store, receive and write emails
 - To listen to music, radio

- To take photographs and videos
 - As a diary/calendar of activities (with alerts)
 - As an alarm clock
 - As a calculator, torch
4. What features do you like to use on your mobile? (you can tick all that apply)
- Being reminded of events
 - Tracking fitness
 - Chatting with friends or family
 - Not applicable
 - Other...
5. What annoys you about using a mobile app?
- Very frequent notifications
 - Too many buttons
 - Buttons too small
 - Too complex
 - Nothing annoys me
 - Not applicable
 - Other...
6. Do you have access to the internet at your home?
- Yes
 - No
7. For any activity you perform online on the internet, do you prefer using a mobile app or a website on a desktop computer or laptop? (Please write your preference and the reason why you prefer it.)
- _____
- _____
8. Do you use the internet for portable devices such as a laptop, mobile phone or fixed devices e.g. a desktop computer OR both?
- I use the Internet for portable devices only (e.g. mobile phone, laptop, ipad)
 - I use the Internet for my desktop computer
 - Both
 - Neither
 - I don't understand this question
9. Can you access websites or your email everywhere from your mobile phone e.g. outside in a car or a park?
- Yes
 - No
 - Sometimes
 - Not applicable

- I don't understand this question
10. In a typical week, how much time (approximately) do you spend on each of the following?
- Landline telephone
 - Mobile phone
 - Ipad
 - Computer
 - I don't understand this question
11. If you use any other device, what is it and how much time do you spend on it?
- _____
- _____
12. Do you own a Fitbit, apple watch or other device that tracks your step-count, heart rate, etc?
- Yes
 - No
 - Ipad
 - I don't understand this question
13. If you have such a device, does it connect to your mobile phone?
- Yes
 - No
 - Not applicable
 - I don't understand this question
14. Would you like a service/feature on your mobile phone that informs you about how active and healthy you are on a weekly basis?
- Yes
 - No
 - Not applicable
 - I don't understand this question
15. Are you willing to talk to us again about our research in the future? If Yes, then please give your name and email address below. Your identity will remain confidential. Your name and email address will not be published and will not be disclosed to anyone outside the study group.
- Yes
 - No
16. What is your preferred name? (Optional)
- _____
- _____

17. What are your contact details? e.g. phone number, email or address. (Optional)

18. Please add any further comments here e.g. and additional features you want in this system, what do you expect/need for getting involved in the project such as Internet connection, funding, training, special equipment etc.

1.3 Protocol for System Usability Study

The Golden Jubilants prototype Version 1 was evaluated after development via Usability testing. System usability scale (SUS)¹ was employed with 20 older adults. SUS provided a reliable instrument for measuring the Usability. It is widely recognised that the SUS questionnaire has good reliability. Along with the 10 set of questions from SUS we added three semi-structured questions to the usability study to acquire qualitative feedback. All of these questions along with demographic information are listed below. This protocol is also used in [1, 4].

Demographic Questions

1. What is your age?
2. What is your gender?
3. What is your marital status?
4. What are your educational achievement(s)?
5. What is (or was) your profession before you retired?
6. What are your living arrangements? Tick whichever applies.
 - I live alone
 - I live with extended family
 - I live in a care centre
 - Other: please specify
7. What do you think about your health and life in general? Circle one of the following.
 - Excellent
 - Good
 - OK
 - Could be Better
 - Bad

¹ <https://www.usability.gov/how-to-and-tools/methods/system-usability-scale.html>

8. What is the name of the town/village where you live?
9. Are you willing to talk to us again about our research in the future? [Yes/No]

Telephone Number: _____

Preferred Name: _____

Email: _____

Thank you for completing this survey, and for your participation in the focus group.

System Usability Scale (SUS)

1. I think that I would like to use this system frequently.
2. I found the system unnecessarily complex.
3. I thought the system was easy to use.
4. I think that I would need the support of a technical person to be able to use this system.
5. I found the various functions in this system were well integrated.
6. I thought there was too much inconsistency in this system.
7. I would imagine that most people would learn to use this system very quickly.
8. I found the system very cumbersome to use.
9. I felt very confident using the system.
10. I needed to learn a lot of things before I could get going with this system.

Post SUS interview questions We asked participants - at the end of the SUS survey the following three semi-structured questions:

1. Question 1 - Can you please give your feedback on any other changes which you would like to see in this version of the system?
2. Question 2 - What (if any) are the additional features (functional and non-functional) you would like to be included in the system?
3. Question 3 - What do you expect or need to get involved in this project such as Internet, funding, training, special equipment?

References

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