**UI Feedback Protocol #2** *Access Assistant project, RERC on AAC, Koester et al.*

This is a protocol to get a second round of feedback on our Access Assistant design, from actual target users who are AT service providers. As a team, we've iterated through many wireframe designs, for both the Plan Ahead and Do an Eval segments of AA. Our focus has mainly been to determine what steps should be included in the app, and how to flow between those steps. The basic design relies heavily on TurboTax's conversational UI style.

Goals are to get some feedback from outside the team regarding these aspects of AA (in order of priority):

1. Content of each section / screen. Are we covering all the important pieces?
2. Workflow – do the screens and sections connect together in ways that make sense? Study #1 gave positive feedback on this already, but additional input is welcome.
3. Usability and style details – we can emphasize this in future rounds but not essential here.

We want to identify ways in which the current design works well and ways in which we might be able to improve it.

<u>Thoughts on overall approach</u>:

In Study #1, we did a think-aloud using the Jo-Kelsey switch scenario for Plan Ahead, then Do an Eval. Users thought aloud about each screen, and told Heidi what they would do. Then she navigated to the next screen (i.e., users didn't do their own navigation). This, plus 4 follow-up questions, took the full hour for most users.

That method worked pretty well but users didn't have a lot of time to get in-depth on the content of each section / screen. We did get comments about content but it might be helpful to emphasize that more in this study. (We also plan a more in-depth content study with 1 or 2 expert providers like Michelle.)

We also want to broaden the exploration to include at least one other scenario. The Terri-Linda scenario is a good complement. This is an inpatient scenario as currently written, but could readily be an outpatient/community scenario as well.

The think-aloud approach isn't a bad one for this study, but it does take a long time, and in the end, there's quite a bit of dead time, and then the participant hits Continue – i.e., the workflow itself is just a series of Continue buttons, rather than requiring real problem-solving. So I think that reduces the need/value of a think-aloud approach in this case.

A demo that allows comments, followed by several in-depth content questions, has a better chance of fitting our time constraints and meeting our goals.

**UI Feedback Protocol #2**:

*Pre-study procedure*:

1. Send email that includes informed consent if they haven't done it before.
2. Execute informed consent prior to session if possible.

*Session prep*:

1. Print out this script and note group assignment options, timing cues, info questions needed
2. Separate printed data collection sheet and prefill
3. Set up screenshare to show wireframes and interest rating scale in chat

*Session procedure*:

Keep to 1 hour (can go over by a few minutes if OK with participant)
Have 2 team members if possible: one to conduct the session, one to take notes (and listen).
Audio-record the session (with permission).

1. Intro (8 min)
    a. Finalize informed consent, if needed.
    b. Finalize choice of scenario.
    c. Assign participant to Group A or B so that ½ of each scenario group is in A and half is in B.
    d. Intro to study
2. Start with Do an Eval. (35-40 min), including questions.
    a. Demo the entire Do an Eval section (20 min)
    b. Revisit particular screens with questions about what's missing or confusing (15 min)
3. Demo the Plan Ahead section. (7 min).
    a. Show how it relates to Do an Eval
4. Finish up with follow-up questions about the overall system and any specific questions that are best answered once you've experienced the whole system. (10 min).

**Practitioner session script**
**[INTRO]**
The broad goal of this project is to ensure that more people with motor impairments receive alternative access methods that fully meet their needs, to access anything from laptops to smartphones to adapted toys. We are developing software to help AT teams provide better alternative access services. The idea of the Access Assistant software is to walk teams through a systematic process, including initial assessment, identifying candidate solutions, conducting short trials of those candidates, and selecting specific solutions.

We're in the process of designing the Access Assistant app: trying to figure out how it will behave, the features it will have, and what the basic workflows will be like. Today, we'll be asking you to review our current design so we can get an idea of where it works well and where it needs to be improved. In our hour session, we'll show you some design wireframes and ask you a bunch of questions.

As we mentioned earlier, we'll be recording this session, so that we don't miss anything.

**[Practitioner Info]** First we have a couple of basic questions about you and your work.

1. Gender: M / F [don't need to ask this; we fill this out]

2. Which of the following best describe your job? (Check all that apply)
   - ❑ Assistive Technology Practitioner/Specialist
   - ❑ Occupational Therapist
   - ❑ Speech-language Pathologist
   - ❑ Rehabilitation Engineer
   - ❑ Teacher
   - ❑ Researcher
   - ❑ Other: _____

3. What kind of setting do you work in? (Check all that apply)
   - ❑ School district
   - ❑ Health care
   - ❑ Community-based
   - ❑ Vocational rehabilitation
   - ❑ University
   - ❑ Other: _____

[**Instructions**] *** Start Zoom Recording now ***
Access Assistant can be used in a variety of situations. In the interest of time, the wireframes (screens) you'll see today relate to only one scenario, involving a therapist and client/patient/student, working on an access assessment using Access Assistant.

So let's pick one of them, based on these brief descriptions:
Scenario 1 - Jo and Kelsey. Jo is an AT coordinator at a large suburban school district. Kelsey is an elementary student with CCN. The short-term goal is to find a viable switch site that will allow Kelsey to reliably access things like cause-and-effect toys.

Scenario 2 - Terri and Linda. Terri is an OT, working with Linda, a woman with a recent C6 spinal cord injury. Their goal is to find a good way for Linda to access her Windows computer for typical tasks like email and web browsing.

Just choose one that relates to your current work. Which one do you choose?

[**Once scenario is chosen, read more about the chosen scenario.**]
OK, let's go over the scenario in a bit more detail.
Jo and Kelsey. Jo has been called in to help Kelsey and her team make progress on goals related to communication and classroom participation. Communication from the school-based team informs Jo that the short-term goal is to find a viable switch site that will allow Kelsey to reliably access cause-and-effect toys, cause-and-effect computer activity, and pre-programmed messages for classroom participation. They also tell Jo about the switch sites they've tried so far without success.

Terri and Linda. During this initial assessment, the first issue they decide to tackle is accessing mouse functions on Linda's Windows laptop. This will allow Linda to clean up her email inbox, which she is highly motivated to do. Linda's arm function might allow her to use the existing trackpad on the laptop, or she may need to move to something like a trackball.

So let's imagine you are the therapist/ATP in this scenario, and you're using Access Assistant for a session with your client.

- bring up the first wireframe: Welcome known practitioner for the current scenario

[**Intro to wireframes**]
A little bit about the wireframes – As you can see, these are basic, unstyled. We're trying to show the basic content and flow – so a lot of the details aren't resolved yet. For example, the images are either missing or pretend, the font may be small, etc. Hopefully, even though it's rough, you can get the idea of what each screen is about.

While I demo this, here's what we'd like you to do. Pay attention as best you can, and if there's something confusing, just interrupt me and let us know. Similarly, if there's something you like, let us know that, too. We'll ask some specific questions after the demo.

One last thing: Keep in mind that this is not a quiz – for example, if something is confusing in the design, it is because of a flaw in the design -- so we want to know about it! OK, let's get started:

**[DO AN EVAL DEMO]**

[**Start screens**]

Start at: Welcome known practitioner for the current scenario and get to Do an Eval (only 3 screens)
OK, so we've created Kelsey/Linda in the system, and navigated to the start of the Do an Eval section. You and Kelsey/Linda are both present for this eval session, working together.

[**Do an Eval screens**]

So now we'll go through these screens, and remember to feel free to interrupt with any questions, confusing things, or things you like.

[Gather Background Info walkthrough]
Do the 'Walk me through' option.

[Evaluate Abilities walkthrough]
OK, you've entered the info in the Background Info part, and we can continue to the next section.

[Test-drive walkthrough]
OK, you've gathered background info, and done at least an initial review Kelsey/Linda's abilities in various domains. We're now ready to go on to the next section and continue our walkthrough.
T/L: 2 activities with the trackpad. Then repeat with trackball.
J/K: a free-choice activity with each of 2 switches

[Review section walkthrough]
OK, so you've done these Test-drives, shown here, and now it's time for the final section. (And remember you can interrupt me any time 😊)

[**QUESTIONS**]
Hopefully that demo gives you a sense for the Do an Eval portion of our design.
Now I have a few follow-up questions for you.

Interest rating: Do you want to see this feature / content in Access Assistant?
1=No, I don't want this.
2=Either way. I don't need it but it's OK to have it in there.
3=Yes, it would be nice-to-have but not essential.
4=Yes, it's a must have.

<u>Group A</u>:
[Gather Info]
- ❑ A1. Let's look at the 4 Main Goals here. Do you think each one of these is clear? Which one would apply to your work most often? Is there a situation that these 4 options don't cover?

[Evaluate abilities]
- ❑ A2. Looking at the screens related to physical abilities, do you think this 2-stage approach is a good way of doing it? Or what do you think might meet your needs better?
- ❑ A3. Show the person with orange body site highlights. This is crude but the idea is that this will reflect the checkboxes, or you can click on the image to select a body site. [Get interest rating.]
- ❑ A4. We have a tip here about assessing UE function. [Get interest rating, about Learn More support in general.]

[Test-drive content review]

- ❑ A5. Do you understand the distinction between Test-drive activities: doing your own activity vs. One that's built-in to Access Assistant? [Get interest rating for each type of activity]
- ❑ A6. While the Test-drive with your own activity is in progress, we could show you a screen like this, with the running duration and a spot for you to enter little observations as Linda / Kelsey do their activities on their own devices. [Get interest rating for duration, and then for notes.] Can you think of anything else that would be useful to show you during a Test-drive?

[Review section]

- ❑ A7. Let's revisit the concept of reviewing Your Prospects and whittling down the options (putting things into Your Picks) -- did that make sense to you?
- ❑ ALL1. Let's look at this example session report. Is this giving you useful info? Anything that we're missing? [Get interest rating.] What would you use this type of report for?

<u>Group B</u>:

[Gather Info]

- ❑ B1. Picking a priority activity: does it make sense why we are asking you to pick that?
- ❑ B2. Contexts of use: do these categories and options make sense? [Get interest rating, about including context info within the app.]

[Evaluate abilities]

- ❑ B3. Looking at the screens related to visual abilities, do you think this approach is a good way of doing it? Or what do you think might meet your needs better?

[Test-drive content review]

- ❑ B4. Let's take a closer look at this choose-a-method screen. As the screen notes, these are generic access methods, not specific products. The view here is organized by what you've already "told" AA about this client. Those characteristics are already active in the filters over here. So it shows you the matching access methods at the top / left, and the rest of the methods follow (they aren't hidden). Would this help you in your eval?
- ❑ B5. Those filter settings are also adjustable, and could cover characteristics such as the type of device, devices that are known to be easy to setup (a low fuss factor), etc. Would this type of feature be useful to you? Say, to help you find candidate access methods? [Get interest rating.]
- ❑ B6. This shows a way of suggesting remedies for issues that might have come up during a Test-drive. This remedies would be specific to the type of access method you're using, and it would highlight issues that you noted, in addition to making all the remedies available to you. As a concept, how useful do you think that might be for you and your clients? [Get interest rating.]

[Review section content review]

- ❑ ALL1. Let's look at this example session report. Is this giving you useful info? Anything that we're missing? [Get interest rating.] What would you use this type of report for?
- ❑ B7. Any other types of reports that you would want to see? For example, across multiple sessions? How often would you see a client for more than 1 session?

[At the end]

OK, that's it for this part, for doing an eval session with a client! Now let me give you a demo of another module of the program.

[**DEMO PLAN AHEAD**]

The idea of this Plan Ahead module is to help you prepare for an upcoming session with a client, probably most commonly to prepare for your first session together. This is something you would do without the client present. It helps you find out what's already known about the background info, and to generate ideas for what you *might* want to try during the session. It also helps you figure out what equipment etc. you might need for the eval session, so you can make sure that you have it ready and know how to use it when the time comes.

You don't *need* to use the Plan Ahead module (in fact, we didn't use it in the walkthrough we just did). But I want to show it to you to see if it's something you might find useful. OK, here's what it looks like.

OK, that's it! Thanks so much for going through this.

**[WRAP UP QUESTIONS]**

We have a few wrap-up questions for you. First, for each statement, rate your level of agreement:

ALL2. Overall, Access Assistant seems easy to use.
1 = strongly disagree 5 = strongly agree Why / why not?

ALL3. Overall, using Access Assistant seems like it would take an acceptable amount of time.
1 = strongly disagree 5 = strongly agree Why / why not?

ALL4. Access Assistant covers the important pieces of the access assessment process.
1 = strongly disagree 5 = strongly agree What is missing?

ALL5. I am likely to use the Do an Eval section during sessions with my patients/clients/students.
1 = strongly disagree 5 = strongly agree Why / why not?

ALL6. I am likely to use the Plan Ahead section in my work.
1 = strongly disagree 5 = strongly agree Why / why not?

Then we have these open-ended questions:

- ALL7. Is there a need for a more-detailed feature-matching section? Would it help if AA helped you create a list of generic features that your client needs, either as a guide to access method selection or an output in the report? [Get interest rating.] If yes, what would that look like?
- ALL8. What way do you think you would run AA? E.g., on your computer? An iPad or tablet? Your client's computer?
- Terri / Linda only: the scenario assumes that T uses 1 computer, and L uses another. This allows for the duration and notetaking we just mentioned. And it also allows Linda to use her very own computer for the test-drives, which may give more realistic results in some cases. It also paves the way for Linda to do activities remotely, and send the data to your computer. Would you want to use any of these 2-computer scenarios? [Get interest rating] Would your computer be primary (i.e., the one you'd use for all the info screens) and Linda's secondary (just for Test-drives)? Or might it be the other way around?

**User study #2 Data Collection Sheet**

[prefill this:]
Participant code: _____ Session date: _____
Group assignment: If J/K: _____ If T/L: _____
Informed consent complete? Y / N Need to ask Info questions? Y / N

Timing goals:

| Section | Allotted Time (min) | Completion goal (:mm) |
|---|---|---|
| Intro | 8 | :38 / :08 |
| Do an Eval demo | 20 | :58 / :28 |
| Questions | 15 | :13 / :43 |
| Plan Ahead demo | 7 | :20 / :50 |
| Wrap-up questions | 10 | :30 / :00 |

[complete during session]
Scenario choice: _____
Final group (from above assignment): _____

**Group A Responses**

| Question | Interest (1-4) | Response |
|---|---|---|
| A1 goals | N/A | |
| A2 physical | N/A | |
| A3 body | | |
| A4 learn | | |
| A5 activity | Choice:<br>Built-in: | |
| A6 test-drive | Dur'n:<br>Notes: | |
| A7 picks | N/A | |
| ALL1 report | | |

**Group B Responses:**

| Question | Interest (1-4) | Response |
|---|---|---|
| B1 priority | N/A | |
| B2 contexts | | |
| B3 vision | | |
| B4 choose | N/A | |
| B5 filter | | |
| B6 remedies | | |
| ALL1 report | | |
| B7 reports | N/A | |

**All participants:**

| Question | Agreement (1-5) | Response |
|---|---|---|
| ALL2 EZuse | | |
| ALL3 time OK | | |
| ALL4 covers | | |
| ALL5 useDo | | |
| ALL6 usePlan | | |
| Question | Interest (1-4) | Response |
| ALL7 feature | | |
| ALL8 config | N/A | |
| T/L 2 comps | | |