RR2 Session 8 Procedure

Equipments and materials

- All robot equipment
- Session 8 Folder with:
    - RR2 Session 8 Log
    - IOS task
    - Memory/Rapport Questions

1. Setup and get a kid!

1. You're all setup and everything works!
    - *If not:* Go back to the Setup Instructions and make everything work.

2. Put Tega to sleep, if Tega is not sleeping already.
    - In the web interface, there's a button for "Sleep!"

3. Get a kid
    - Check the class schedule (if there is one). Which class can you get a kid from?
    - Bring your list of kids (RR2 Participant List).
    - Visit the classroom. Ask the teacher or one of the assistant teachers for a kid from the list who needs a turn. You may ask for a specific kid, but sometimes it is better to ask for one of several kids, so the teacher can decide which kid is easiest to pull out at that particular time.

4. Get kid situated
    - Bring the kid back to the robot. "Okay, here we are!"
    - Show kid where to sit. "This is your chair."

5. Start camera recording
    - “Before we wake up Red, let me quickly check the cameras, okay? Just a moment.”
    - Check video views (you already did this, but may want to check again).
    - Adjust the cameras as needed.
    - Start recording:
        - On your mac, open a terminal and navigate to the rr_tools directory:
            - **cd ~/projects/rr_tools/**.
        - You will need two terminal tabs open and will need to start the recording script twice, once for each camera. Enter the participant ID and the session number.
        - $ ./record_from_camera.sh p000-s8
        - **Follow the prompt: Select the camera and microphone. Double check that you have selected the correct camera and microphone!**
        - New terminal tab.

        - $ ./record_from_camera.sh p000-s88
        - **Follow the prompt: Select the camera and microphone. Double check that you have selected the correct camera and microphone!**
        - This script is from https://github.com/mitmedialab/rr_tools
    - Recording will not start until you have selected the camera and microphone! So make sure you do that.

2. Launch Robot interaction

1. In the web interface (http://192.168.1.100:8080/), start the interaction! Choose your name, enter the PID, and choose the session number. Double-check that the PID and session number are correct! Select "beginning" as the starting point.
2. Click "Launch"! The first thing the script tells Tega to do is sleep. It will then wait for the magic wakeup words to continue.

3. Re-Introduce robot

"Do you remember how to wake up Red? (ice cream) That's right! Use a loud voice and say *ice cream!*"

4. Robot Interaction

The robot will wake up and start talking.

Like before, within a few minutes you should excuse yourself over to your laptop. You can say something like "I'll be over here working on some stuff" if the child is curious. We want the child to do as much of the interaction as possible by themselves, and as much as possible in a "play" context, without such obvious adult supervision. If the child is nervous or wants you to stay, that is fine; you can do so.

If the child looks to you or has questions, you can answer them. Remember these things:

- Always refer to the robot as "Red". Do not gender the robot. Do not use he, she, or it.
- Don't say much about the robot. Sometimes kids ask "Is Red a boy or a girl?" or "Did you make Red?" or "Why did she do that?" These are questions you respond to generically or with questions, such as: "What do you think?", "Hmm…", "I'm not sure…" The robot has a particular backstory in this study, so it is best if you let the robot do all the explaining about itself.

Story retelling

The robot will have a brief conversation with the child, then tell a story. During the story, the robot asks the child several questions about vocabulary words in the story. For each one, the robot asks: "Can you say <word>?"

1. Record in the Session 8 Log whether the child says the word when the robot asks them to.

After the story, the robot asks the child if they liked the story.

1. Record in the Session 8 Log whether the child says they liked the story, sort of liked it, or didn't like it. (The robot will reference this in a later session).

Then, the child is invited to retell the robot's story.
If the child does not want to or has trouble retelling the story, you may give a few brief prompts, in this order:

1. "<child name>, Red really likes listening to stories. You don't have to remember all of it or get it all right. Anything you remember helps Red practice listening."
2. Look, you can flip through the pages using these arrows. What do you remember about this page?
3. What's happening on this page?
4. (Red backchannels) See? Red is trying hard to listen!

When the child is done or if the child refuses to retell the story at all, ask the child to say “the end” or "that's the end of the story". If the child's voice is not recognized, use the "The End" button in the web interface.

1. Record in the Session 8 Log whether the child retold the whole story, retold some of it (e.g., did a couple pages then skipped to the end or skipped over most of pages and only spoke a little), or did not retell it at all.

As soon as the robot falls asleep, go over to the child: "Okay! It looks like Red has fallen back asleep. Before we go back to your class, I have a couple questions for you, okay?"

5. Posttest

The assessments that are administered after Session 8:

- IOS task
- Memory/Rapport Questions
- Vocabulary assessment

Instructions

1. During the assessments, write down any comments about the participant, e.g., "did not complete vocab assessment", "stopped halfway to use the bathroom then came back to finish", "mostly spoke Spanish", "did not understand questions", etc. These comments are very useful during data analysis.
2. Make sure camera is on pointing toward the child.
3. **Do the IOS Task**:
    a. Instructions are printed in your Session folder.
    b. Do the task. Record the child's responses on the IOS answer sheet.
4. **Do the Memory/Rapport questions**:
    a. Instructions are printed in your Session folder.
    b. Do the task. Record the child's responses on the answer sheet.
5. **Do the vocabulary assessment**:

a. The vocabulary assessment uses a subset of the items from the Pretest. For each test item, children are shown four images. A vocabulary word is said and the child should touch the image that shows the word. No feedback about right or wrong answers is given.
b. Adjust the tablet volume so that audio it plays will be audible.
c. Open the "Session 8 Posttest" app.
d. Enter the correct participant ID. You can skip entering a birthdate.
e. Before clicking "Start", tell the child, "Remember the word game we played last time? You'll hear a word, then you should touch the picture that show the word you heard."
f. When the child is ready, press "Start".
g. This assessment should take approximately 1-2 minutes.
h. **If you need to pause,** click the home button on the navigation bar (you need to either swipe left from the right side of the screen or swipe down from the top of the screen to reveal the navigation bar) to go to the home screen. When you launch the app again, it will automatically continue.
i. **If the app fails for any reason,** relaunch the app, enter the correct participant ID, and click continue. The app will continue the assessment where it left off. If that doesn't work, enter a new id (e.g., pp001 instead of p001) and start over.

6. End the session

1. Stop the camera recordings: Enter “Ctrl-c” on the webcam recording terminal tabs.
2. Take kid back to the classroom.
3. **Check Tega phone power.**
    - Check the Tega app.
    - Is Tega's phone below 30% power? Swap it for a charged phone and plug in the low-battery phone to the S7 fast charger.
    - Make sure the Tega app is removed from recent apps, then restart the Tega app.

- Because you used the tablet for the a vocabulary test, **you must restart the Opal app.** Close it from recent apps, reenter the IP address, and restart it.

7. When you're done for the day

1. **Update the RR2 Experiment Logs** in the RR2 Data google drive folder: https://docs.google.com/spreadsheets/d/1lgEea-4tRltf44kKjDXmj5ZPCAjQX7uMUL7-PdwPL9c/edit?usp=sharing
    a. **Update the Overall Log** with the date and success/fail information for each participant.
    b. **Update the appropriate Session Log** with all the information you recorded, including all pretest/posttest responses.
2. **Upload all data (videos! Photos! etc!)** to the appropriate folders in the google drive folder: https://drive.google.com/open?id=1Aw1xzWcc40q3QLVzkP0YgLVP-RGmNHAv
    a. Please ensure that each video's filename has the study code, participant ID, and session number in it! This is especially important if you are not using the rr_tools/record_from_camera script for recording. Make sure all video files start with "rr2-p000-s5", for example: "rr2-p001-s5.mp4" or "rr2-p002-s5.mov". Whatever video

format is fine but it is very important to label the video files by participant ID and by session!

3. Return all equipment, pretest materials, posttest materials, and paper logs to Jackie!

8. Troubleshooting

If the interaction is interrupted…
You can restart it at a couple of different points and get pretty close to where the interaction was interrupted. From the web interface, enter your name, the PID, and the session, then select the appropriate starting point:

- To restart right after the robot woke up, choose: intro
- To restart right before the anomalous picture task, choose: apt
- To restart right before the picture conversation, choose: pc
- To restart right before the self-disclosure task, choose: sdt
- To restart right before the robot's first story, choose: rs1
- To restart right before the robot's second story, choose: rs2
- To restart right before the photo with the robot, choose: photo
- To restart right before the interaction closing, choose: close

If the robot appears to do the same animation over and over, and doesn't move on to the next part of the interaction...
From the web interface, use the buttons to send a "Wakeup" command to the robot.

If the robot appears to be not reacting to any commands, or if you see a "connected to network" popup on Tega's face at any time…
The robot lost the wifi and had to reconnect. It probably can't talk to the robot computer anymore. Restart the robot app.

If the Offline ASR app quits unexpectedly….

1. Sometimes it does that. Re-open the app.
2. Check the IP address and the network: 192.168.1.100 and either robots1 or robots2.
3. Start it running again.
4. Still closes? Check that the mac mini's ethernet cable is plugged in and that you can open the web interface. If not, plug it in and restart the mac mini. After you have pulled up the web interface, try the ASR app again (and don't forget to restart everything else after restarting the mac mini!)
5. Still closes? Restart phone.
6. Still closes? Swap phones. All of them have both the Tega app and offline ASR installed.

If the Offline ASR app appears to not be working or continuously says "RECOGNITION SERVICE BUSY"....

1. Sometimes it does that. Quit the app.
2. Re-open the app.
3. Check the IP address.
4. Start it running again.

If one of the webcams doesn't appear in the list when you run "record_from_camera":

1. Unplug both cameras then plug them back in. Wait a couple seconds.
2. Try running the "record_from_camera" script again.
3. Both cameras still not in the list? On a mac: Open Photo Booth and in menu bar, click Camera, select the FaceTime built-in camera, then press Command-Q to quit (or select "Quit Photo Booth" from the menu).
4. Try running the "record_from_camera" script again.
5. Still can't find both webcams? On a mac: Open a terminal and run `sudo killall AppleCameraAssistant; sudo killall VDCAssistant`

If Tega does not do anything when you think it should (e.g. does not wake up when you say ice cream or does not sleep when you press the sleep button)…

1. Check that the router is plugged in.
2. Check that all the ethernet cables are plugged in.
3. Check that all devices are on the correct robots1 or robots2 network.
4. Check again that the robot phone is on the correct network.
5. Restart the Tega app.
    a. Check that the Tega number matches.
    b. Check that the Tega IP address is *http://192.168.1.100:11311*
6. Restart the ASR app. Check the IP address and network.

If the web interface doesn't load…

- Try the following, one at a time, until the problem is resolved:
    1. Check that the router is plugged in.
    2. Check that all the ethernet cables are plugged in. Sometimes they get loose.
    3. Check that all devices are on the correct robots1 or robots2 network.
    4. Wait for a minute or two, then refresh the page. It takes some time for the web interface to start after the mac mini first turns on.
    5. Restart the mac mini, after plugging the ethernet in and making sure the router is on.

If you forgot to swap out the robot phone and it loses power during the interaction….

1. Swap out the phone for a new one. The robot may miss 1-2 lines dialogue but once the robot face comes up it will continue just fine!

If the Opal app keeps closing when you try to open it….

1. Restart the tablet and try again.

If the web interface doesn't show you the interaction control buttons or shows them briefly before going back to the "launch" buttons:

1. Tell Jackie. There's nothing easy you can do.