Analyst Interview Protocol

Preparation

Arrange time and place to meet with the analyst. Somewhere neutral like a coffee shop. Make sure they bring their laptop. They can use whichever environment they want to answer the questions.

Meet & Greet (5 minutes)

Introduce ourselves, give background on what we do (personally, and as a research group).

Study Background (5 minutes)

Describe the PRISMS study and how we collected this data.

Proposed Study (5 minutes)

The goal of our project is to characterize how 'non-expert users' (e.g. the general public or similar) approach interacting with data when trying to answer personal questions. We're interested in uncovering any bottlenecks which exist in the problem-solving pipeline for the average user, and why some of the tools we build fail to resonate with our intended audiences.

We have a large collection of participants' indoor air quality data (over a year's worth in most cases), and this invites a lot of analysis opportunities. There are lots of things we can think to do, but ultimately we are most interested in what our users are interested in.

To address this, I've designed individualized problem solving activities with our users: They come in with a problem or question that they'd like to see answered with their data, and we have them direct us in regards to how to proceed in reaching a solution (i.e. data they need to answer it, what a solution even looks like for them, etc.)

The exploratory analysis portion of this exercise follows after an interactive design activity. From our write-up:

> *The participant will explain their problem, how and why they chose it, and what they hope to learn from answering it. We then collaboratively work on breaking the problem into simpler bits and pieces. We will perform a set of design exercises, such as using arts and crafts to help sketch how they might want to see the data. At their direction, we will work to analyze their air quality data. We will use their design sketches to create charts and/or summaries to help answer their specific question, with opportunities to review and revise our approaches along the way.*

This iterative real-time analysis model serves as the basis for the interview and the analyst will serve as the computational expert for creating the participant's vision into a data artefact. The study Facilitators will work as liaisons to help the study participant articulate their ideas and translate this into actionable directions for the analyst to execute.

Terms, conditions, questions [5 minutes]

Make sure the analyst knows what this entails -- travel to perform the analysis tasks on-site (40 - 80 min drive times, plus interview). Ask if they have any questions or concerns.

Review Dataset(s) (5 minutes)
Introduce & explain dataset. Send link to data, have analyst download and explore it. Explain its structure, answer any questions

Potential Analysis Questions (30 minutes)

Programming tasks

1. Plot each of the individual sensor streams:
    a. As captured
    b. In 1 hour aggregations
2. Group measurements by location type, and create a composite indoor PM average
    a. Bonus: plot this against outdoor measurements.
3. Compare the bedroom air quality for a given day against the same time last month.

Conceptual - Explain how to approach the following

4. Using the events log, make a histogram of all the peaks that occured:
    a. Per hour of day
    b. Per day of week
5. How would you go about determining the average spike duration from a collection of spike data.
6. Make a plot of the maximum values per day for each of the sensors over some month-long period
7. Arrange or partition the PM dataset to extract spike profiles from the annotation logs, grouped by annotation type (cleaning, cooking, etc)

Wrap up (5 minutes)
Thank the analyst, explain we are looking at other participants and we'll let them know our decision after we've had a chance to speak with the other candidates.

De-brief (10 - 20 minutes)
Discuss with other researcher, write down impressions and a feeling about the candidate.

Total Time: ~75 minutes.

- [5 min] Meet
- [5 min] Background
- [5 min] proposed study
- [5 mins] terms and conditions
- [5 min] Review data
- [30 min] Analysis questions
- [5 min] Wrap up
- [15 min] de-brief

Feedback form

Personality fit

Technical abilities

Other notes