INTRO

We are a project team from Worcester Polytechnic Institute working with the fretology project, or an effort to preserve data about significant guitars for people to use as a future reference.

We are building a library of instrument data in two forms:

Physical representation through CT scans (seeing the different layers, what the inside are comprised of, how it's put together etc),

and audio representation, through recordings and frequency analysis. The instruments we plan on analyzing are considered by many to be rare and exceptional.

We consider instrument-makers to be a key audience for this, and we'd like to know what aspects of this data, in particular how it's represented, might align with and be meaningful to your work, or any thoughts you may have to strengthen our effort.

QUESTIONS

1. If there was a rare instrument at the M E T or another museum that you wanted to hear and hold, short of actually playing it, what might you want to know? Where do you see the most value in observing data from this instrument? If you had this instrument in your hands, what might you do to get a better sense of how it's built?
   a. Bracing?
   b. Wood grain orientation? Wood type?
   c. Tap test?

2. How might the information inform or influence your work as a builder? If we gave you a list of materials/quantities, and location sites for these, how would you make sense of the information and how would it be useful?

3. How does analyzing the work of other luthiers inform your work?

4. We can reasonably represent many physical aspects of the instrument and some aspects of its sound. (playing single strings, taps) what resources would be useful to you as a builder?
   a. 3D Models?
   b. Full-scale mechanical drawings?
   c. Tables , Graphs?

5. Say hypothetically, there was a storage system of all of the information on guitars ever. It would be a luthier's dream to have access to this. How would you personally envision this? How would you want to access the information from this said storage base?
6. When you are talking about materials, how do you communicate variables like thickness of wood, tension in a string, or stiffness to weight ratio? Is it more common to see the metric system being used to set a standard, or is it up to the luthier and their preference?

7. What standard of accuracy and precision is appropriate for these variables?

8. How do you personally describe and quantify your "data"? Are your methods more subjective?

9. What are some of the difficulties you face as a builder and what are some of the approaches you take to overcoming those difficulties?
    a. How do materials or access to materials factor into your work?
    b. What about software?

10. How might an understanding of an instrument's sonic properties be helpful? What might you want to know?

11. What do you look/listen for when creating your instruments? How can we provide an adequate range of samples, while having a reasonable amount, that will satisfy the end user's needs? Eg. should we give audio data for one string at a time, a few select chords, slapping vs fingerstyle, or tapping the guitar itself?

12. If a list and physical size of materials was given for every part of the guitar, how might you use that information ?

13. What angles and images from a CT scan of a guitar would be most useful to your work?

14. What recommendations could you offer as we consider designing our data platform and protocols for a broader community?

15. Beyond guitar luthiers are there any other groups that you feel would be interested in exploring this data if it was made publicly available?

16. How useful would audio or video recording of the instrument being played be for your work?

Some ideas that I have on making the questions into a shorter list.

Our ultimate plan is to have a set protocol for how to preserve musical instruments. We have two main categories of preservation data are CT scans of the instrument, and audio analysis of the instrument.

1. How would you prefer our mechanical data be represented?
    a. 3d models
    b. Certain angles of CT scan image
    c. Mechanical drawings
    d. Tables and graphs
2. How would you prefer our audio data be represented?
    a. One string at a time
    b. Chords
    c. Strings plucked
    d. Strings slapped
    e. Percussion
3. When you look at a plan for a guitar, or listen to a guitar sound, what are you looking for or listening for?
4. How does the data from other luthiers' work influence your builds now, and how do you think you would use data from historic guitars?
5. When talking with other luthiers, how might you communicate about guitar materials? Do you use scientific terms like "stiffness to weight ratio", or "density", or would you prefer to hear things like "brazilian rosewood"?
6. Is it more common to use the metric system or is it a guitar builder's preference?
7. How precise do measurements usually have to be?