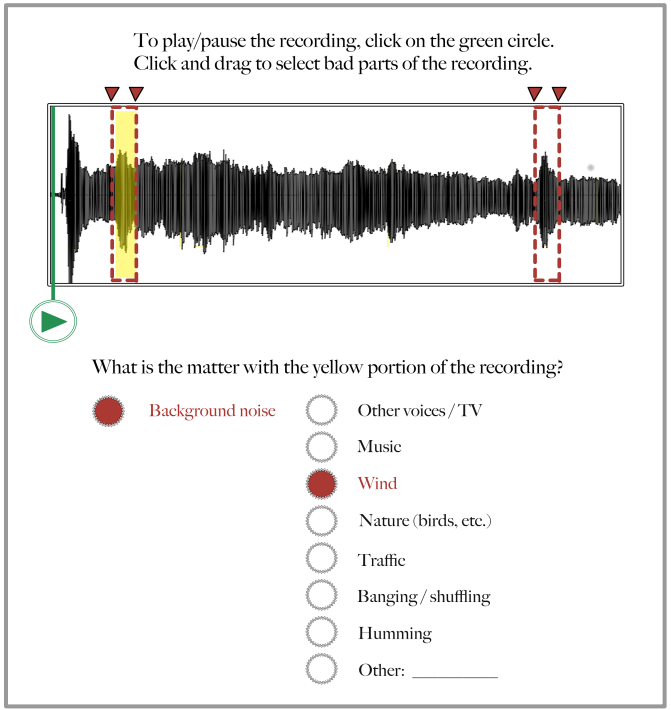
Prepare mHealth sensor data for feature extraction

Relevance:
We need to prepare all mPower app sensor data for extracting relevant features.

For example, we need to see how and whether removing/editing bad sensor files will improve signal.

Significance:
Collecting vast amounts of mHealth data will fail to impact the way in which medical research is done unless the data are deemed of high enough quality to furnish useful findings.

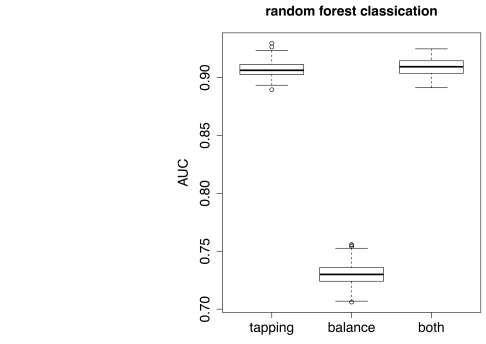
Crowdsourcing audio annotation:

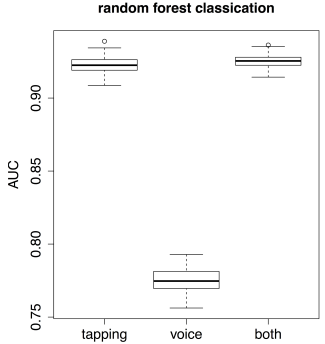


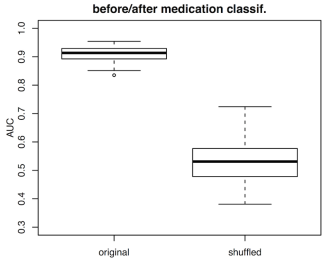
Extract features from mHealth sensor data

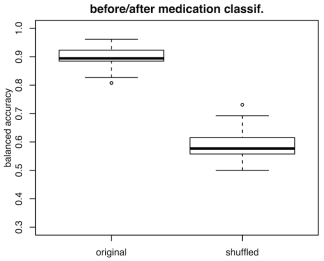
Relevance:
We need to extract relevant features to characterize mPower's sensor data.

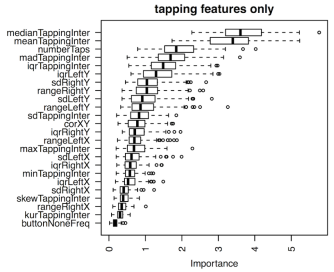
Significance:
Our mHealth app-related work is intended to vastly increase the ease, scalability, and engagement of mobile health research applications.
It is of paramount importance that the features we extract have the best chance of drawing signal out of the data.

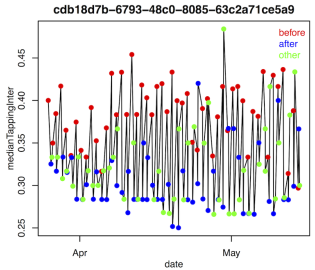


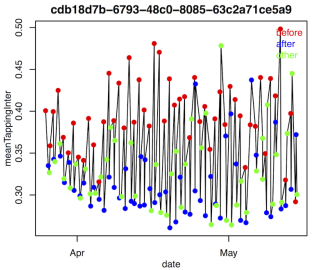


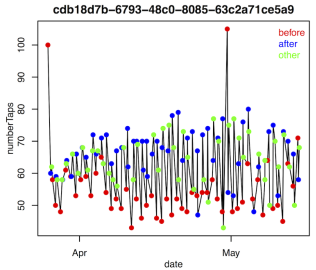












Make questionnaires intuitive, engaging, and text-free

Relevance: We are trying to move from boring, intrusive, arduous questionnaires to passive data collection. One example path is to translate mPower's questionnaire to visual counterparts without text.

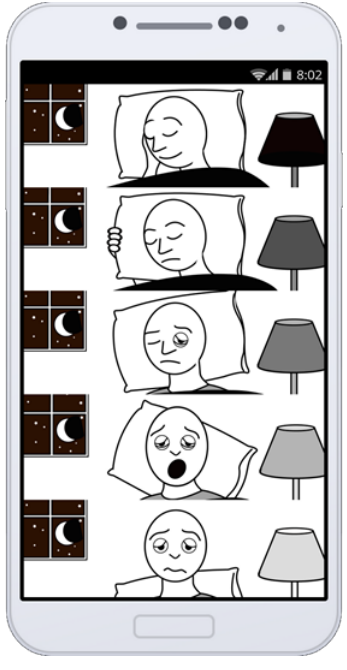
Significance: If participants are not sufficiently engaged, all our efforts to transform participant-centered research will be moot. The most obvious way to engage is to widen accessibility to speakers of any language, and to visually communicate information.

Part I: Non-Motor Aspects of Experiences of Daily Living (nM-EDL)

1.7 SLEEP PROBLEMS — **SCORE**

Over the past week, have you had trouble going to sleep at night or staying asleep through the night? Consider how rested you felt after waking up in the morning.

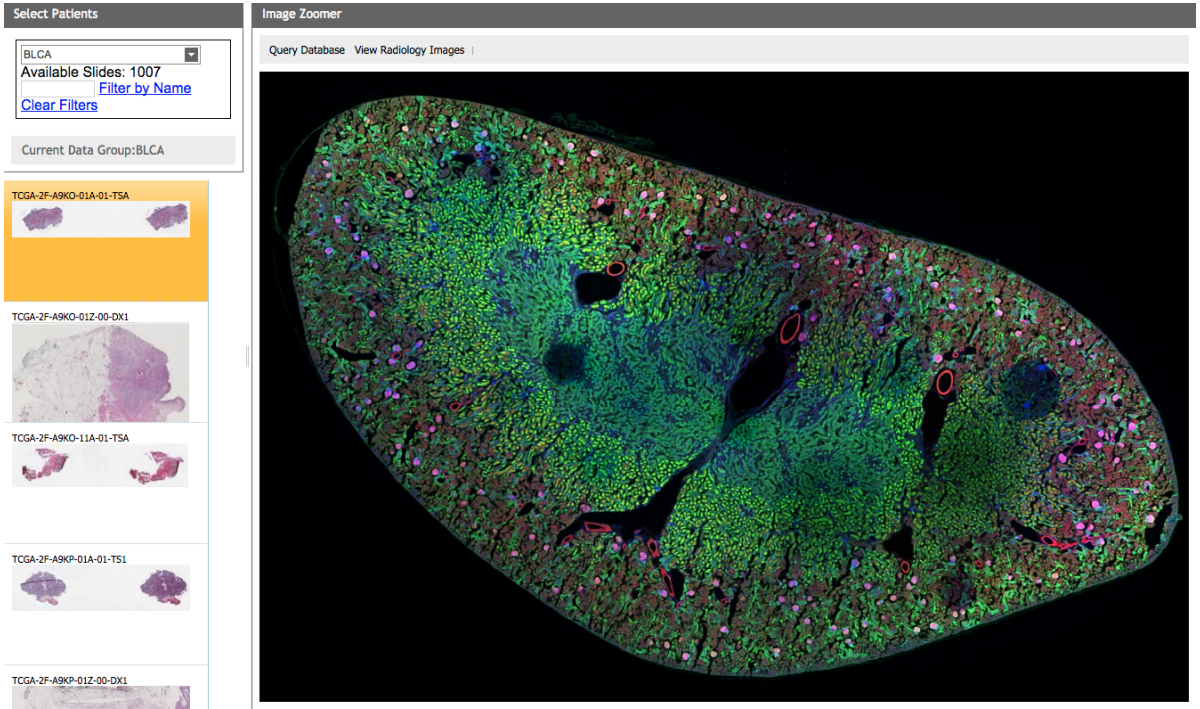
0: Normal:	No problems.	
1: Slight:	Sleep problems are present but usually do not cause trouble getting a full night of sleep.	
2: Mild:	Sleep problems usually cause some difficulties getting a full night of sleep.	☐
3: Moderate:	Sleep problems cause a lot of difficulties getting a full night of sleep, but I still usually sleep for more than half the night.	
4: Severe:	I usually do not sleep for most of the night.	



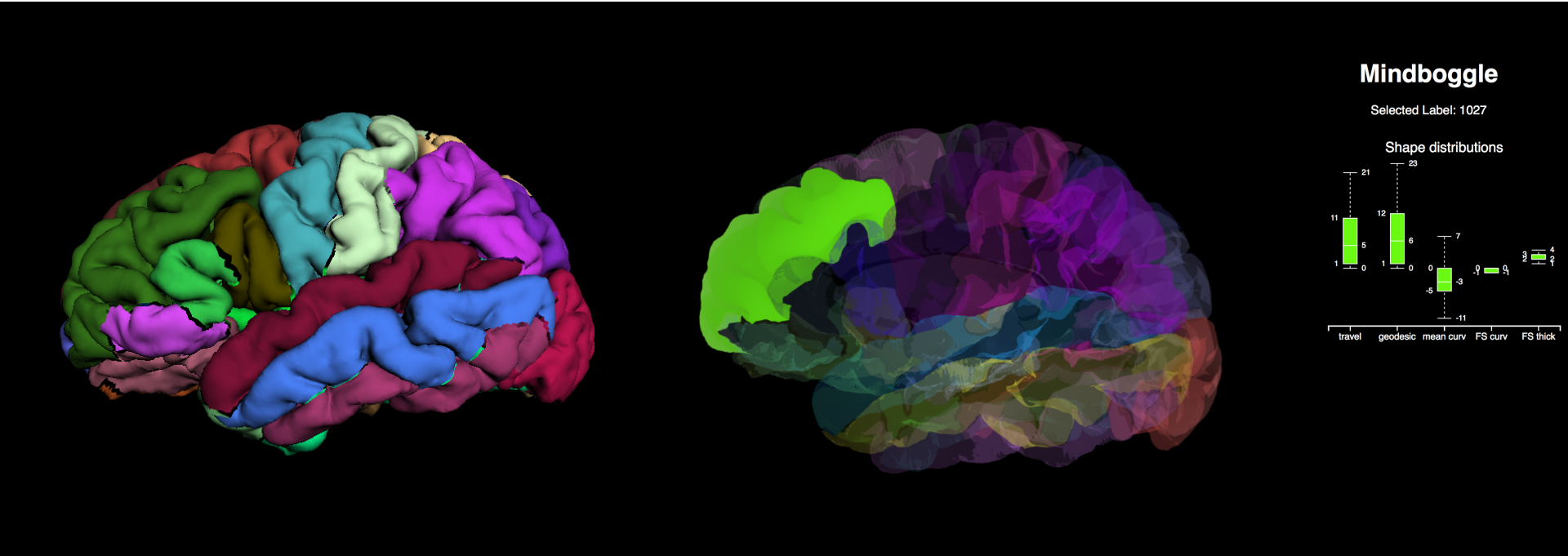
Visualize large image data on Synapse

Relevance: Challenge participants need to view and interact with large, server-side image data via a browser.

Significance: Image data need to be seen, especially in advance of and at intermediate steps of processing. Our challenges will be at a disadvantage if they cannot allow participants to interact with the image data visually.



Visualize brain image data on Synapse

Relevance: Different imaging communities could be drawn together via a Synapse browser-based vis platform.

Significance: There is a great need across neuroimaging communities for a uniform way to visually navigate imaging data, especially for quality control assessment and individual scrutiny of data.