

Running experiments in a web browser using jsPsych

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Research in speech perception is largely done with custom-made programs such as DMDX, Praat, OpenSesame, PsychoPy, E-Prime, and others. Since these programs require pre-installation on specific systems, frequent updates, and correct calibration, we have experienced numerous equipment-related compatibility issues that have been taxing for our data collections. In this workshop we will introduce an open source alternative, jsPsych, that facilitates running experiments through a web browser. Running a web-based task offers researchers more freedom to test both in and out of the lab without needing to install or calibrate specific software. It also provides access to a larger and more diverse pool of participants, and allows for more efficient testing sessions. Furthermore, using jsPsych provides extreme versatility in the setup of the tasks as well as the data that can be collected, since anything that can be coded in JavaScript can be part of the experiment.

This hands-on workshop will begin with an introduction to jsPsych as a library of JavaScript plugins and the documentation that is available online. We will then work through sample scripts for a few common tasks in speech perception research (e.g. AXB, oddity, perceptual assimilation, accentedness ratings, intelligibility transcriptions, etc.). Scripts will be chosen based on participants' interests as indicated in a pre-workshop survey. Participants will learn the basic structure of a script and the functions of different parts of the script. We will practice altering a script so that the desired instructions and stimuli are presented, and the relevant data for each trial is recorded (e.g. reaction times, accuracy, experiment conditions, etc.). And finally, we will discuss different ways in which the data can be saved, either on the local machine or on a web server. Prior knowledge of HTML, JavaScript, and SQL is helpful, but not required, as participants will be guided through script design and setup step by step.

Learning outcomes

By the end of the workshop, participants will (1) understand how to use the jsPsych library as a resource tool, (2) have some understanding of how to interpret the code behind a task, (3) be able to perform basic alterations to a sample script to create tasks relevant to their own research, and (4) be aware of different ways to save the data.