Workshop: Section 1 - Intro to oTree, Experiments in General, and oTree Interface

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Interactive Experiment

http://bit.ly/pisa-room

Downloading Data

http://bit.ly/otree-pisa

Interactivity in Experiments

- Interactivity: Real-time Strategical interdependence
- Note that most survey platforms like Qualtrics (*), SurveyMonkey, and Survey.js do not support interactivity.
- Practical level of interdependence:
  - waiting for others
  - conditional matching
  - groups
  - roles
  - conditional flow

Introduction to oTree

- Python-based
- two main versions (3.x - Django based; 5.x - starlette based)
- there is a web-based version available (oTree Studio, https://www.otreehub.com/studio/)

oTree and some competitors

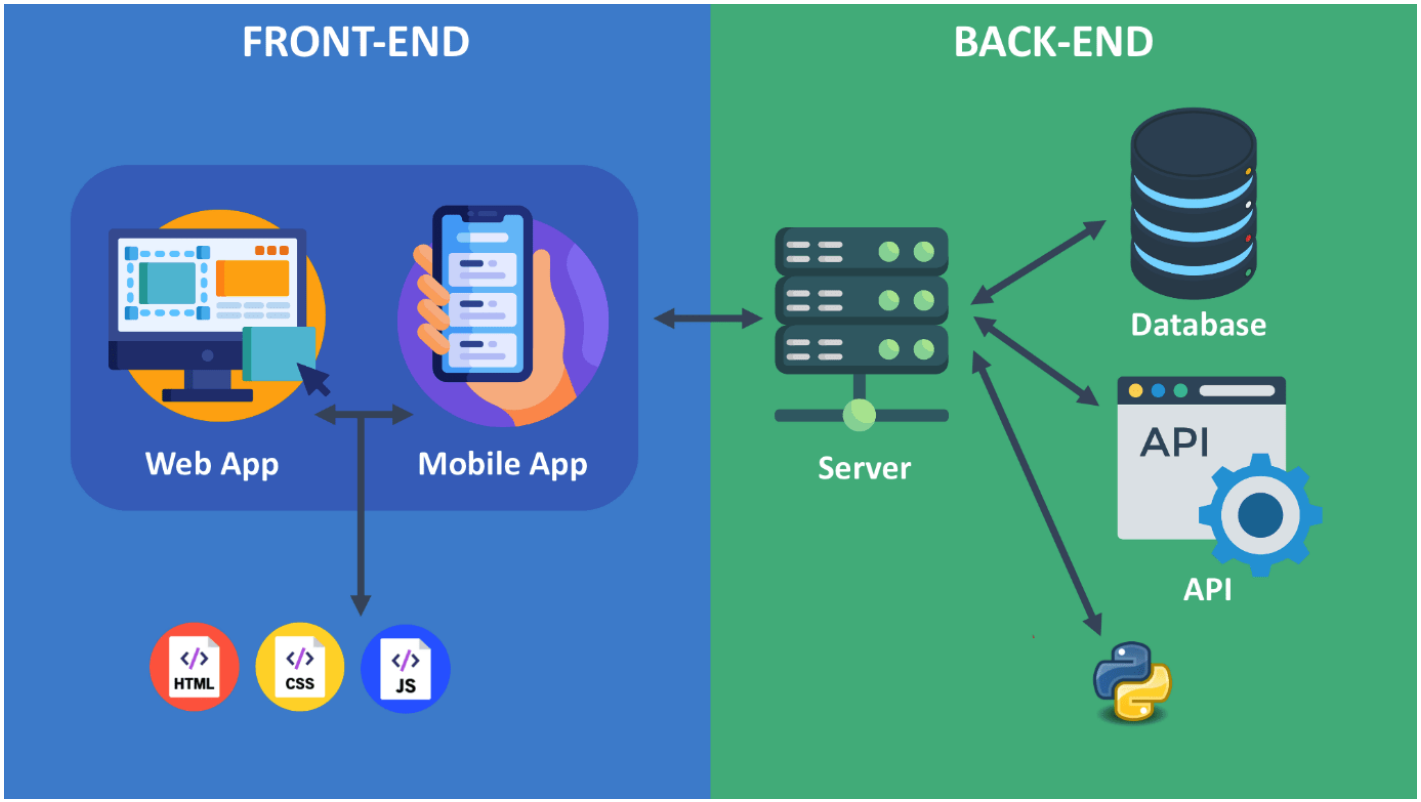
- oTree: Website, Documentation, Citations: 1605
- SMARTRIQS Website - Qualtrics-based interactive platform. Citations: 92
- z-Tree unleashed: Website, Citations: 62
- Lioness Lab: Website, Citations: 91 in Google Scholar
- SophieLabs: Website
- Gorilla: Website
- For more options, check out the 'Apps and Integration' section on Prolific.

oTree as a Web Server

- A sequence of HTTP responses over GET and POST requests to server
- Python (3.8-3.11) at the backend; HTML+JS+<template language>at the front
- storing and retrieving data from the relational database (sqlite/postgres)
- CSS Bootstrap for quick formatting
- jQuery for quick JavaScript code
- Usually mobile responsive

Shortcomings

- Very steep learning curve



- Not so easy to deploy (Git+Linux shell)

Behavioral Experiments Overview

- What do we need:
  - Replicability (share your code on GitHub)
  - Random assignments to treatments
  - Re-use of the code across treatments (DRY - Do not Repeat Yourself)
  - Attention checks
  - Data validation
  - Some anti-hacker measures (no returning back)
  - Variable payoffs
  - Integration with crowdsourcing platforms

Randomization and Treatments

- We'll have a separate section tomorrow
- Important distinction:
  - within-session treatment assignment:
    - **PRO**: perfect balance, no time effects
    - **CONTRA**: sometimes not possible
  - between-session treatment assignment:
    - **PRO**: logistically easy
    - **CONTRA**: Never balanced; prone to criticism;

  try to balance, or simultaneous rooms

Online Platforms Overview

- Since oTree is just a web-server, it can be easily integrated with most of the crowdsourcing platforms:
  - Prolific
  - Amazon Mechanical Turk (mTurk)
  - CloudResearch
  - CloudResearch Connect
  - BeSample

Deployment and security

- Heroku, AWS, Digital Ocean
- Local servers (most likely Linux-bases like Ubuntu)

Why locally?

- State legislation
- University regulations
- IRB

What kind of deanonymizing information can be collected: IP addresses, agent info, etc.