Petri/Open Field Experiment

Summary: Petri/Open Field Experiments is a large-scale field experiments infrastructure that was a research project(Fall 2018 - Present) with Professor Hari Sundaram. The purpose is to allow researchers to easily and smoothly conduct field experiments at scale by allowing them to generate and deploy their questions through a web application, which would then be received by participants on their mobile devices in a native mobile application. Researchers only had to input their questions and their constraints (time restrictions, ordering of questions) and then could ship them out. In this first prototype, we collaborated closely with a professor in the Psychology department at UIUC studying decision making and preference behavior. My work resided in doing mobile engineering, specifically in building the question flow for the participants. Each week I showcased my progress on implementing the user interface on the research participant portal, and then had a discussion on the experience details. To be careful in removing biases and controlling randomization properly in the study, I had to orient pie charts randomly to mitigate visual biases as well as giving researchers a simple interface control over the randomization of both the selection and ordering of questions. The outcome of this study is that the Psychology group was able to deploy their complete study with minimal technical assistance from our team. We have continued our work this semester by making the application on the researcher end autonomous, allowing researchers to independently deploy and run their studies without any supervision from our team.

Login portal for researchers: https://www.petri.life/

Below are some snippets of the general interface/test run with the Psychology department.

Figure 1. Research participant landing page on mobile application

Figure 2. Example question with graphs deployed during Psychology test run on mobile application

Figure 3. View from researcher web portal after entering information about a study they will deploy